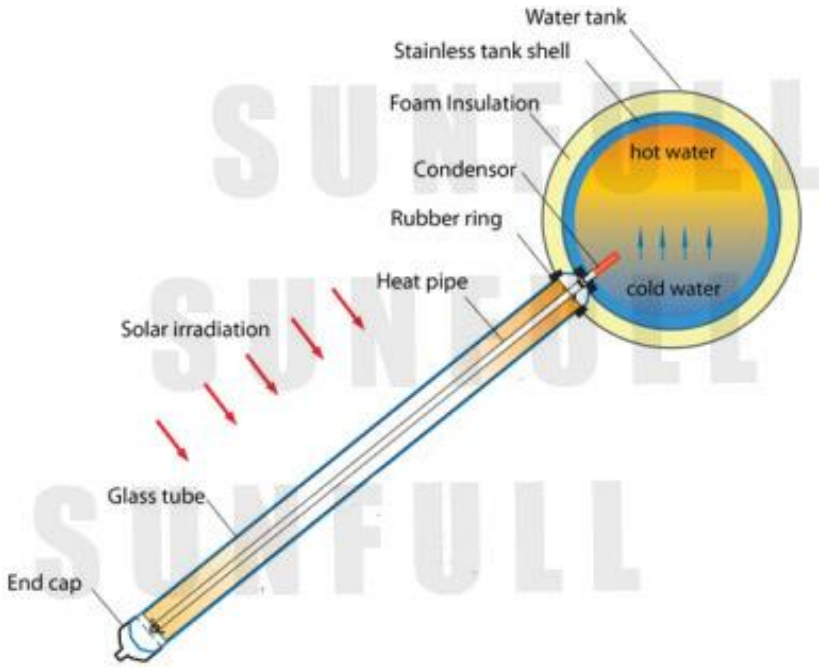
COMPACT PRESSURIZED SOLAR WATER HEATER

Operation Manual

WORKING PRINCIPLE



✧ **Compact pressurized solar water heater relies on the solar energy exchange between solar collectors and water in the tank. As vacuum tube absorbs solar energy, heat pipe will transfer the heat energy to the tank. So the cold water is heated continuously in this way.**

✧

MODELS & SPECIFICATIONS

Model	Heat Pipe	Gross Absorption	Capacity
58/1800-15	58x1800x15 tubes	2.46 ㎡	150L
58/1800-18	58x1800x18 tubes	2.95 ㎡	180L
58/1800-20	58x1800x20 tubes	3.28 ㎡	200L
58/1800-24	58x1800x24 tubes	3.93 ㎡	240L
58/1800-30	58x1800x30 tubes	4.92 ㎡	300L

MAIN SPECIFICATIONS

- **Inner tank:** SUS304-2B (food grade) Stainless Steel

  Outer tank: Galvanized Steel

  Insulation layer: Polyurethane Foaming

  Heat preservation: 72h
- **Heat Pipe:** 3-Target Vacuum Tube with Copper Pipe inside

  Size: Φ58mm x 1800mm

  Hail resistance: 25mm
- **Bracket:** Galvanized Steel
- **Optional Accessories:** Electric Heater, Controller, Reflector and so on.

INSTALLATION NOTICE

1. **Please read this manual carefully before installing, or install the solar water heater by professional person.**
2. **Please pay attention to Tank, Heat Pipe, Bracket and Reflectors (if have) when moving them. Don't put heave things them.**
3. **DON'T SCREW ON THE T/P VALVE BEFORE LOADING WATER!**
4. **The cold water inlet pipe should be installed with Pressure Relief Valve to ensure the system pressure will not exceed 0.6Mpa.**
5. **When Water Tank is fixed on the bracket, please fill the water tank with cold water at first. After the water tank is full of water, Heat Pipes can be installed one by one.**

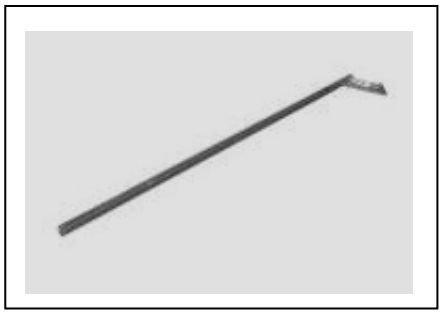
BRACKET BREAKDOWN (1)

Picture	Item No.	Name of Part
	A	Front Support
	B	Tank Support
	C	Rear Support
	D	Side Top Bevel Bar
	E	Side Bottom Bevel Bar

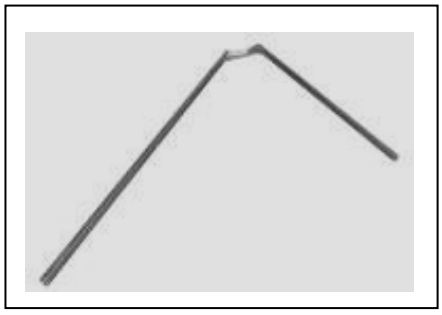
BRACKET BREAKDOWN (2)

Picture	Item No.	Name of Part
	F	Fixation Foot
	G	Rear Bevel Bar
	H	Front Cross Bar
	I	Front Bevel Bar
	J	Tail Support
	K	T/P Valve

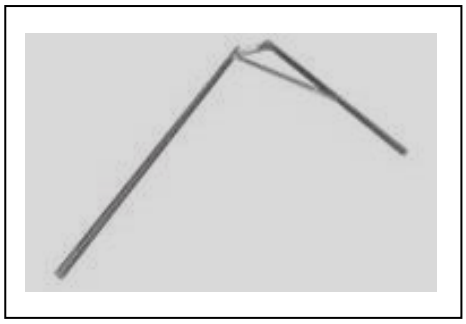
INSTALLATION PROCESS (1)



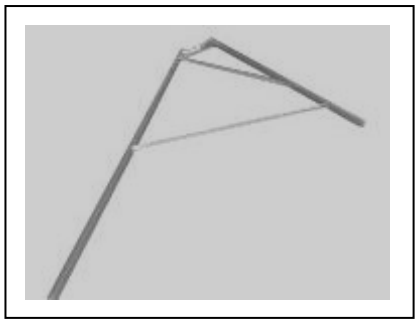
Connect A with B



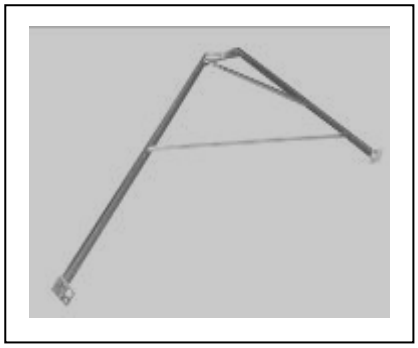
+ C



+ D



+ E



+ F

Repeat above steps & use G to connect 2 pieces together

INSTALLATION PROCESS (2)

If need, connect the 3rd piece as above

+ H

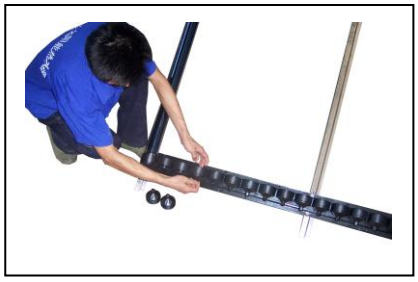
+ I

+ J

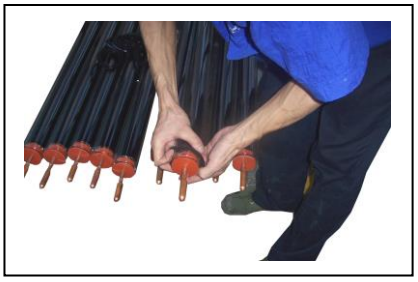
Put the water tank on the bracket

Insert 4 bottom screws into B, but not fasten them at first.

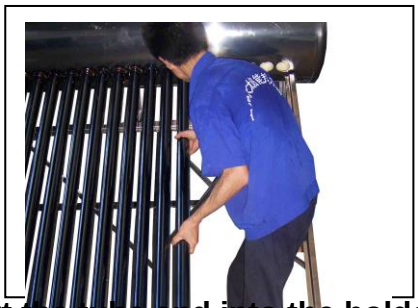
INSTALLATION PROCESS (3)



Remove all the covers of tube holder



Lubricate Anti-dust Ring
& Tube with water



Insert the tube end into the holder,
then rotate the heat pipe into tank slowly

Screw the cover back
into tube holder

Check Anti-dust Rings to
make sure they seal tank well

Screw on the T/P valve after
the tank is filled with cold tank

INSTALLATION GUIDE (1)

1. How to prevent lighting stroke effectively in installation?

The existing thunder arrester on the roof should be increased at least 50cm higher than the top of solar water heater before installing. Meanwhile the distance between solar water heater and thunder arrester should be kept as 10cm at least. It is not allowed to connect the solar water heater with the thunder arrester directly. The insulation protection should be added around the solar water heater when necessary.

2. Items to note for installation:

a. Transport and install it very carefully and gently.
b. Make it face south in Northern Hemisphere, face north in Southern Hemisphere, and ensure no covering object in front of it.
c. Two wrenches should be used when connecting water nozzles with the pipes. One is to fix the water nozzle and the other is to fasten the connectors.

INSTALLATION GUIDE (2)

a. Lubricate the Anti-dust Ring with water, and then use the Anti-dust Ring to hitch the opening end of vacuum tubes. Insert the tube end into tube holder at first, then insert the heat pipe top into tank with slowly rotation, and screw on the end cover very well.
b. The nuts should not be fixed tightly when installing the tank, and fix them tightly after installing the heat pipes and tank.
c. The joint of all the pipes should bear the pressure of 0.3Mpa in max.
d. The water nozzles, sensor's hole, and pressure relief valve should be installed well. Both the pipes and the water nozzles are supposed to have heat preservation layer which can be fastened by the adhesive tapes.
e. The solar water heater should be fixed very well, especially in the heavy wind area, cement, expansion screw or steel wire is suggested for installation.
f. When the installation is finished, screw the T/P Valve on the tank after the tank is filled with cold water.
g. DON'T SCREW ON T/P VALVE BEFORE LOADING WATER!!!

OPERATION GUIDE (1)

1. Cold water loading

Open the valve of water loading which is connected with cold water inlet to let cold water fill in the tank until full, then screw on the Air Vent Valve, no need to shut down the valve, leave it open.

2. Heat Preservation

In the sunshine, high-efficiency vacuum solar collectors would absorb the solar energy automatically and heat the water, then the water tank with 72 hours' heat preservation function can ensure hot water using at any moment.

3. In use

Hot water would come out when you open the tap. Test the temperature to avoid injuring yourself! If it is too hot, mix some cold water to adjust until the water temperature and supply are both ideal.

OPERATION GUIDE (2)

4. Electric Heater (Optional)

Due to climate change, for example, when the sunshine is weak, or it rains you can turn on the electric heater to heat the water in advance. If installing the electric heater without connecting with controller, please make sure it's equipped with a residual current protecting device for the safe use. Remember to shut it off before taking shower!!

WARNING

Electriferous washing or bathing is strictly Forbidden !!!

MAINTENANCE GUIDE (1)

1. What can we do if water-scaling appears?

Normally, water-scaling appears when the water temperature goes up to 70℃. Time for removing scale ash is the late autumn or early winter. Also the time depends on the local water quality. The cleaning tool is tailor-made brush, and the detergent is diluted hydrochloric acid.

2. What can we do if the water in the tube freezes in winter?

There are two main reasons why the tubes will be frozen. One is because of the tubes. Inferior quality tubes may frozen (our products will not be frozen even at -30℃) The second reason is quality of the pipes. Bad selection and insulation processing of the pipes cause them frozen. Utilizing good aluminum-plastic pipes or other special pipes can withstand high and low temperature. Any way to solve this problem is to keep the water in the pipes running round the clock.

MAINTENANCE GUIDE (2)

3. What is the ordinary maintenance?

a. The heat pipes should be changed when there is something wrong with vacuum tubes or copper pipes.

a. The tank should be changed when it is leaking.

b. When any of the accessories are broken, the faulty accessories should be changed in time.

c. Ask the professionals to check and repair the system for you once meeting some unmanageable malfunctions.

This product can be used in four seasons with lifetime of more than 15 years. And normal maintenance is necessary during this period!

COMMON MALFUNCTIONS & TROUBLESHOOTING (1)

1. Leakage of solar water heater or pipes

Possible Causes	Troubleshooting
The leakage of water tank because of the exceed pressure of 0.6Mpa to the tank	Repair the broken or replace the tank
The pipe connectors are loose or broken	Fasten them again or replace the pipe connectors.

2. Water is not hot enough

Possible Causes	Troubleshooting
Vacuum Tube is broken or lose their vacuum and the heat pipe degenerate	Adopt new Vacuum Tubes and heat pipe
There is a overlay above or around the solar water heater or there is much dust in the air which makes the collector covered with many dust	Get rid of the overlay or try to move the solar water heater to some place full of sunshine. On the seriously polluted area the users should brush the vacuum tube termly.
Without sunshine or not turning on the electric heater	Turn on the electronic heater