

Compact Pressure Solar Water Heater Customer Manual



Instruction/Manual for CPS series Compact Pressurized solar water heater

(Please read carefully the manual before use)

This product has adopted the national standard of Q/321282 YZD08-2001

The manufacturer has quality control system certified by ISO9001: 2000

This product is approved by the CE standard

Thank you for choosing our CPS58/1800 series solar water heater. You're now having a solar heater with the world's top-level technology, super performance and safe and reliable solar water heater. To bring its full effectiveness to you, please carefully read the User's Manual before installing and using your solar heater and proceed with your installation and use according to the manual.

Please keep your User's Manual for later reference.

(This manual is exclusively for CPS58/1800 series pressured solar water heater.)

Content:

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II. Name of Each Parts and Components

III. Technical Performance Parameters

IV. Method of Installation

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I. Features

1. Advanced technology:

The core parts of the denosolar water heater --- heat pipe vacuum tube and Stainless water inner tank involve numerous national patented technology. The heat pipe vacuum tube with advanced technology in gathering solar energy features water-tightness, high heat absorption, independent heat supply, fast energy output, wide scope of application and long working life.

2. Low heat loss:

With imported polyurethane foam en-bloc high pressurized, which is of high density and strength, the solar heater has excellent heat insulation.

3. Superb process technology:

The pressurized inner water tank is made of special metal, formed up with advanced punching technology and auto non-electrode replacing welding technology. A special silicate is sintered by high temperature to the inner tank's walls, forming a special protection layer featuring freedom of leakage, rust/erosion and scaling, thereby effectively preventing leakage between the water tank and the heat-gathering tubing and ensuring the cleanness of water.

4. Low heat diffusion

- Connections to water outlet, sensor and electrical auxiliary element are all underneath the water tank.

- Heat diffusion at all connections is greatly reduced, virtually eliminating heat diffusion by convection, resulting in high heating efficacy.

- Thorough draining of hot water in the tank, effectively enhancing the volume utilization rate

- Air deletion/overflow outlet is led indoor through pipeline, easy to monitor and

- Water inlet can be fitted with built-in high-level single-line valve to realize automatic water feeding, stopping water feed when full.

5. Easy for functional extension:

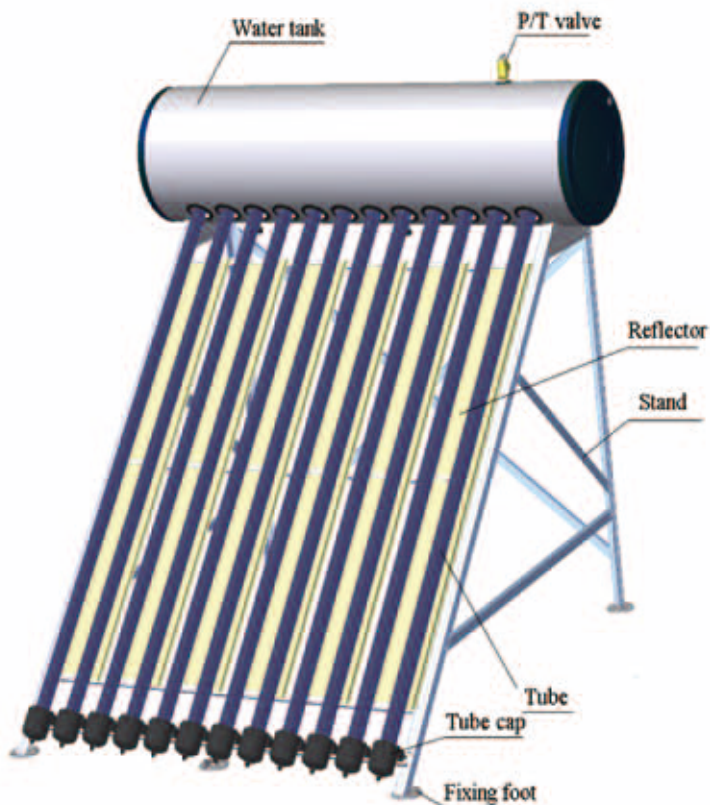
This solar water heater is fitted with water feed-in connection; overflow connection, and connections to computerized controller and electrical element. The user can have a number of options depending on his actual needs.

- Connections to sensor and electrical element are plugged

- Sensor is an accessory to the computerized controller and is sold together with computerized controller, electrical element and water feed-in valve as accessories.

II. Names of the parts and components

1. Heat pipe vacuum tube pressured solar water heater (see Fig 1)



2). Water tank (see Fig 2)

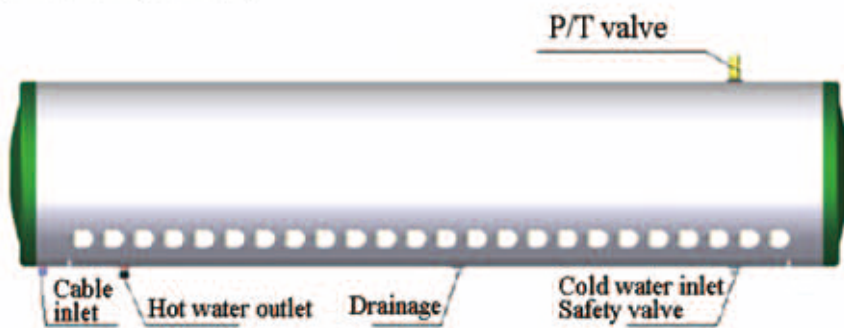
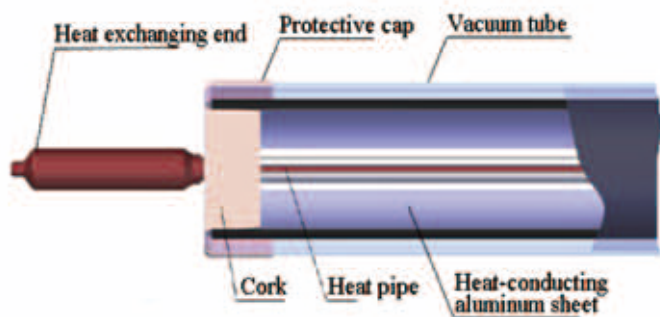


Fig. 2

3. Heat pipe vacuum tube (see Fig. 3)



III. Technical Performance Parameters

Item No.	Solar Vacuum Tube		Tube Coating	Absorber Area(m ²)	Tank Capacity	Loading Qty / sets		
	qty / pcs	size / mm				20GP	40GP	40HQ
CPS-100	10	Φ58 X 1800	CU-S/S-AL/N Heatpipe	1.32	100L	61	126	148
CPS-150	15	Φ58 X 1800		1.95	150L	55	110	129
CPS-180	18	Φ58 X 1800		2.23	180L	43	88	103
CPS-200	20	Φ58 X 1800		2.78	200L	37	75	99
CPS-240	24	Φ58 X 1800		3.22	240L	33	70	81
CPS-300	30	Φ58 X 1800		3.65	300L	27	56	66

IV. Method of Installation

- Attention! • Qualified professionals must do installation of the solar heater
- Location of installation must be flat, with no object blocking in the front to reduce heat gathering efficiency
 - Installation foundation of the solar heater shall bear twice the weight of water container holding capacity
 - Installation must be secure and stable to prevent damage and accident
 - It is recommended to provide the hot/cold water pipelines with adequate insulation in order to prevent freezing in winter times, which will affect the normal use of the heater
 - before installation be sure to check the water tank of the heater for alien matter and flush it clean with water

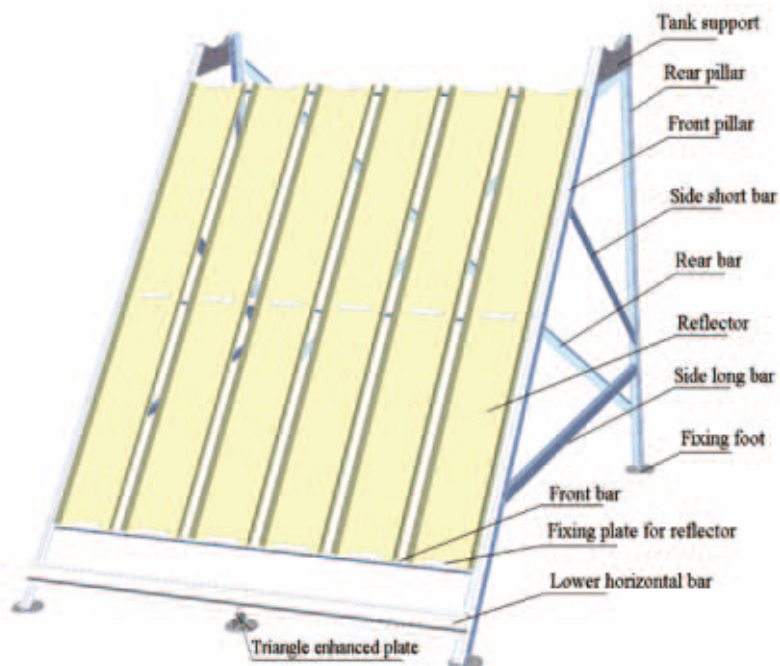
1. Supporting stand assembly (see Fig 4):

- Assemble Right and Left tank supports, Right and Left front pillars, and fixing feet by M6*12 and M6 screws.
- Assembly rear bars, rear pillars, side short bars, side long bars, etc by M6*12 and M6 screws.
- Assembly reflecting plates and their fixing plate, middle horizontal bar and front bar by M6*10 screws.

Attention! The flat side of the fixation foot must be parallel with the end

Attention! Foundation must be level and fastening must be firm and reliable.

Fig. 4



2. Installation of water tank and heat pipe vacuum tube

A. Set the water tank symmetrically on the supporting frame and secure with 4 sets of M8 nuts, please see Fig 5

B. Installation of heat pipe vacuum tube to the water tank:

Run in the upper protection ring at the condensing end of the heat pipe vacuum tube, apply heat conducting silicon grease to the condensing end of the tube and then insert the condensing end of the inner tube into the water tank's heat conducting sleeves, see Fig 6.

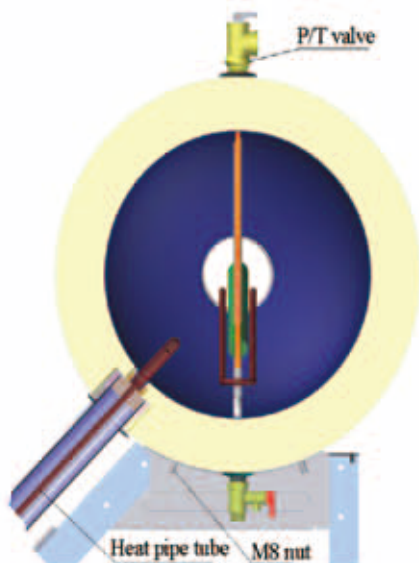


Fig 5

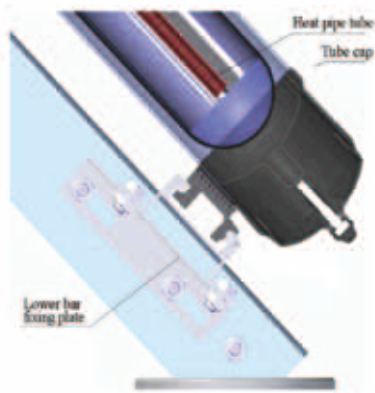


Fig. 6

Attention!

- ▲ Apply ample quantity of silicon grease to the top of the condensing end
- ▲ Make sure that the condensing end of the heat pipe vacuum tube is in close contact with heat conducting sleeve, free of any clearance
- ▲ Before installation, make sure that heat pipe vacuum tube is not exposed in sunlight for a long time in case the condensing end gets scorched and expands and becomes impossible to be inserted in the heat conducting sleeve

3. Installation of the reflector **Optional Choose**

Set the reflector and the reflector fastening between the two pairs of heat pipe vacuum tube, fastening them with M4x55 bolts and M4 nuts respectively.

4. Installation of pipeline

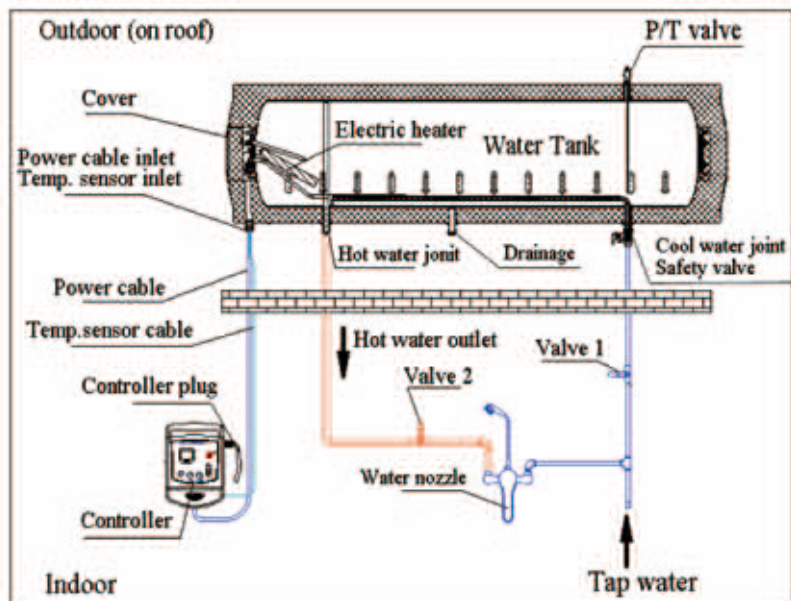
please pay attention to the following when doing the installation: see Fig 7

C. Installation of the adjustable tail seat:

Run in the tail seat retention ring at the tail end of the heat pipe vacuum tube and fit the tail seat retention ring to the lower horizontal linkage rod as shown in Fig.6. Then fit the tail seat adjusting ring to the retention ring by turning the former; while turning, apply appropriate force to lift the heat pipe vacuum tube

upward so that there is no room for it to move up/down.

Fig. 7



①There are G1/2" screw thread for all the joints of tank's cold and hot water, and the joint of P/T valve is G3/4"

②Layout should be according to the pipe installing regulation.

③One- way safe draining valve should be installed at cool water inlet joint(Fig.8), which should be connected with air and towards downside, the position cannot be too deep, normally 10mm.

④The outside pipes need over 50mm warm-keeping to avoid being frozen in winter.

⑤While connecting pipes, do not use too big force.. (Fig.9)

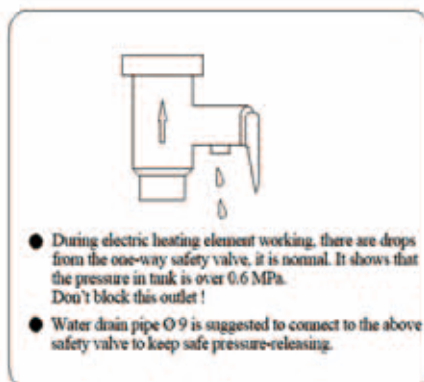


Fig.8



Fig.9

⑥ If solar water heater is higher than the around buildings, lightening rod is needed. The lightening rod of building should be 50cm higher than the water tank and the interval space not less than 30mm.

5. Installing micro controller:

Caution

- ① The socket and plug should be connected well.
- ② If auxilliary electric heating system installed, do connect the live wire, null wire and ground wire correctly with power-leakage protection plug. The socket should be
- ③ Use tri-wire plug of safe protection, and the rated current value of socket $\geq 10A$
- ④ Safe measures should be taken and layout to specification.

⑤Installing micro controller Details see the manual of Micro Controller.

Correctly use micro controller. Please read the manual before using. Details see its manual.

V. Using Method and Notices

Caution: The light collecting plates should face south with nothing blocked, and supports reliable to anti-strong wind.

①Filling water: The heater is filled water by pressure and free of filling device (Fig.6), water will be automatically filled till fullness and then stops.

②Using water: Water can be used under pressure.

VI. Common Failures and Troubleshooting

Trouble shooting

Symptoms of trouble	Causes	Way of removing
No self check at switch on, no display or confused display	Poor contact at power input plug	Unplug power, and check the plug and plug in again
Display is " _____ "	Poor contact of sensor plug in or wire broken	Plug in again or replace
Leakage protection's power indicator not lit up	Leakage protection is activated	Check the cables and electrical heating tubing for power leakage
No heating and no temperature-rise, heating indicator is constantly on	Electrical heating tube is damaged Temperature reaches the set value	Replace the heating tube Set water temperature at a higher value
Water in the tank not hot	Heat gathering tubing covered up by dust etc	De-dusting, remove covering
	Low solar radiation	Let the heater work 2—3 days before using
	Heat gathering tubing damaged, low absorption	Replace heat gathering tubing
	Scaling on the heat conducting sleeve	Remove the scaling
No hot water or no water comes out	Low tap water pressure	Boosting the pressure
	Feed in valve not shut properly or damaged one way safety valve, resulting in hot water returning	Replace the valve
	Leakage in water tank	Replace tank or send for repairs
	Freezing of outdoor plumbing	De-freezing or send for repair crew
	Pipeline fallen off or valve failure	Send for repairs



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