

Product Catalogue

» SMART WATER HEATING WITH NEW ENERGY RESOURCES



Tanso 天旭 Power your green future

Shandong Longguang Tianxu Solar Energy Co.,Ltd.

Add. : No. 489 Beihuan Road, Zhucheng, Weifang City,
Shandong Province, China

Tel. : +86 18310008190

Email.: erin.xing@tianxusolar.com

www.tianxusolar.com

Product Catalogue

» ECO HEATING SOLUTION WITH NEW RENEWABLE ENERGY

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Power your green future

About Tanso



SINCE 2002

700+	Employees
23	Years History
500,000	Square Meters
6	Subsidiary Companies
25+	Countries and Regions Exported to
3	Main Business Fields Glassware/ Solar Thermal/Solar Photovoltaic

Shandong Longguang Tianxu Solar Energy Co., Ltd. (hereinafter referred to as "Tanso") has been a leading supplier of comprehensive solar thermal system development and solutions providing since its establishment in 2002. After 23 years evolution, its business scope has extended to R & D, manufacturing and integrated applications of solar hot water and heating, air source heat pump, photoelectricity, and other energy sources.

Why Choose Tanso?

- Technology Pioneer: Advanced R&D capabilities with the industry's most comprehensive solar thermal value chain.
- Industry Standard-Setter: we are one of the key contributors to "China's national standards" for high borosilicate glass tubes, vacuum tubes, and solar water heaters.
- Unmatched Manufacturing Scale: 330 tons/day high borosilicate glass production (10 dedicated furnaces); 40,000 vacuum tubes/day (World's largest production capacity).
- End-to-end solar thermal solutions including: Pressurized & Non-Pressurized Water Heaters, Flat-Plate & Heat Pipe Collectors, and Pre-Heating Systems & Custom Project Solutions.
- Certified Excellence: Manufacturing certified to ISO 9001 (Quality/Environment/Management Systems) and CCC standards.
- Global Trust: Serving clients across 25+ countries with reliable, high-performance solutions.

At Tanso, we invest relentlessly in cutting-edge technology and expert talent to deliver simple, efficient clean energy systems. We empower households and businesses worldwide to reduce carbon emissions and combat rising energy costs.

Together, we harness the sun's power for a brighter, sustainable tomorrow.

Four major production bases



Zhucheng Tian Xu Production Base



Zhucheng Jia Yue Solar Energy Intelligent Industrial Park



Shandong Linyi Ruiguang Production Base



Chiping boron-silicon Production Base in Shandong Province

Product Information



Three Target Solar Vacuum Tube

Core component of the solar water heater. Excellent performance of absorbing, but low heat loss, Excellent resistance of burst, Excellent resistance of corrosion, long life span (up to 15 years).



Heat-pipe Solar Vacuum Tube

Large transmission power, fast start; Small thermal resistance, higher heating water temperature ; Pressure-bearing, ultra-long life; No water in the vacuum tube, anti-freezing cracking pipe; High operating temperature, good efficiency.



Non-pressurized
LPC collector



Glass Heat Pipe Solar Vacuum Tube

Anti-freezing:it will not freeze even at - 40 °C in cold weather; Anti-leaking; Anti-scaling; Glass heatpipe can reach 150°C; Anti-corrosion



Compact Non-pressure SWH



Compact Flat Plate SWH



Pressurized split heat pipe SWH



Heat Pipe Solar Collector

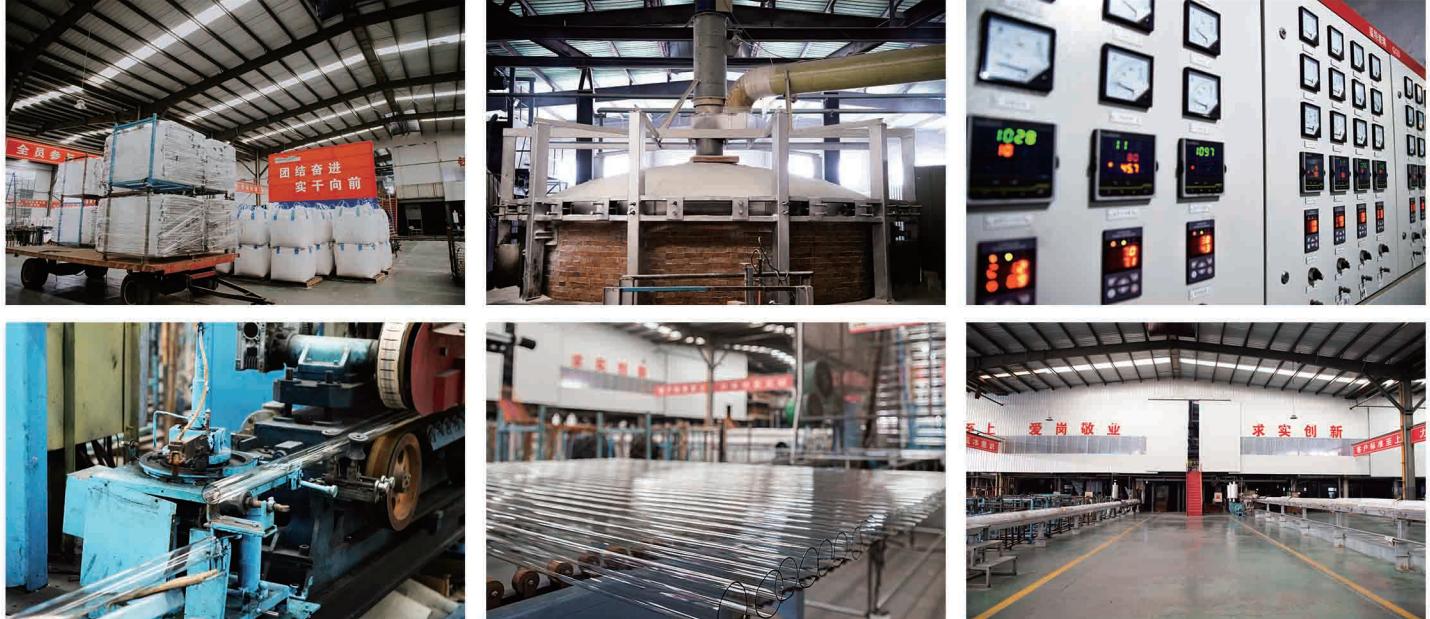


Split Solar Collecting System

Production Facility

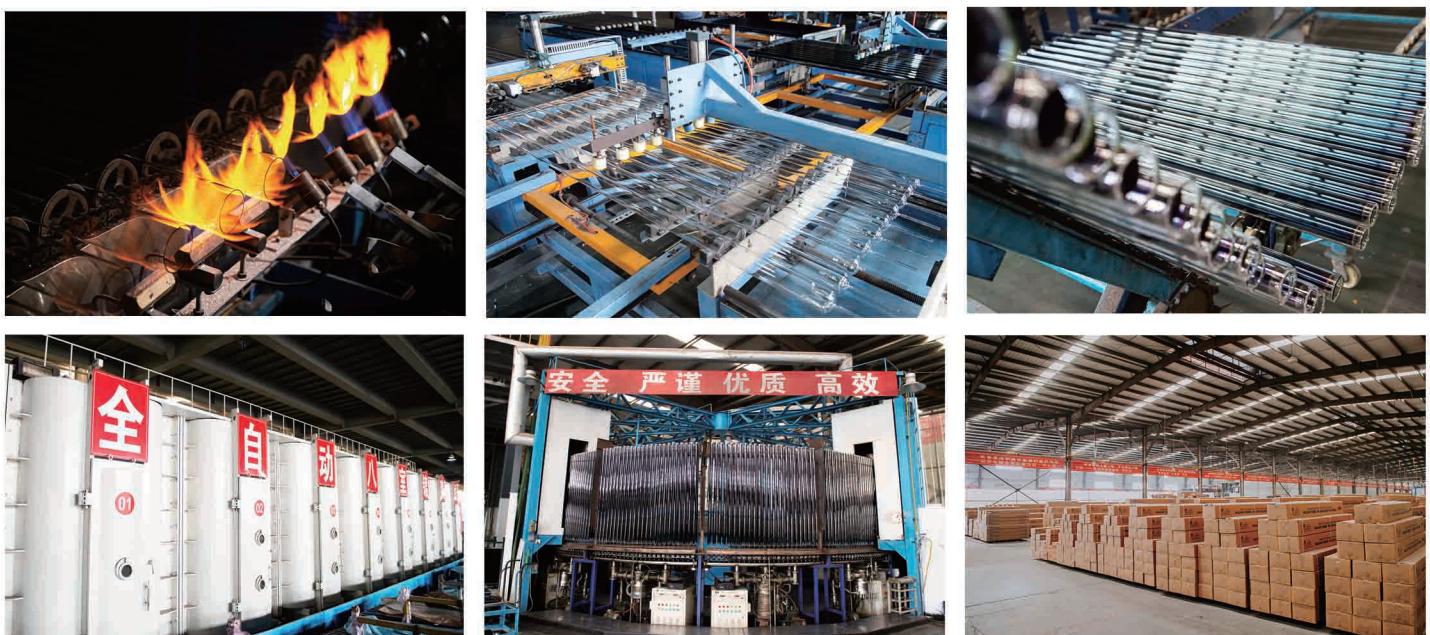
All-electric Furnace for High Borosilicate Glass Tubes

- 10 Furnaces for High Borosilicate Glass Raw Tubes- The largest scale in China.
- Daily output of 330 tons, annual output reaching to 120,450.00 tons.
- National Standard Drafter for High Borosilicate Glass Tubes.
- Over 30 years experience in glass industry.



Solar Vacuum Tube Production Lines

- The world's most advanced production machine for solar vacuum tubes.
- The biggest production scale in China with daily output of 40,000 pcs.
- National Standard Drafter for Solar Evacuated Tubes.
- Over 30 years experience.
- OEM for first solar water heater brands in China, India, Mexico, Vietnam, Etc.



We have the most advanced production machines to ensure that we manufacture the highest quality products.

Among our equipment includes:

First-class industrial chain
Domestic testing equipment
Shearing, bending, welding, and more machines



Flat Plate Collector Production Line

Solar Water Heater Production Line



Solar Water Heaters (Compact Non-pressure)

For water heating available with 100-500L tank

Introduction

The Non pressure galvanized solar water heater is the most cost-effectiveness and environmentally friendly way to harness solar energy for hot water applications, which is unsurpassed by any other solar thermal products, for its most high efficiency, low cost and easy installation.



Working Principle

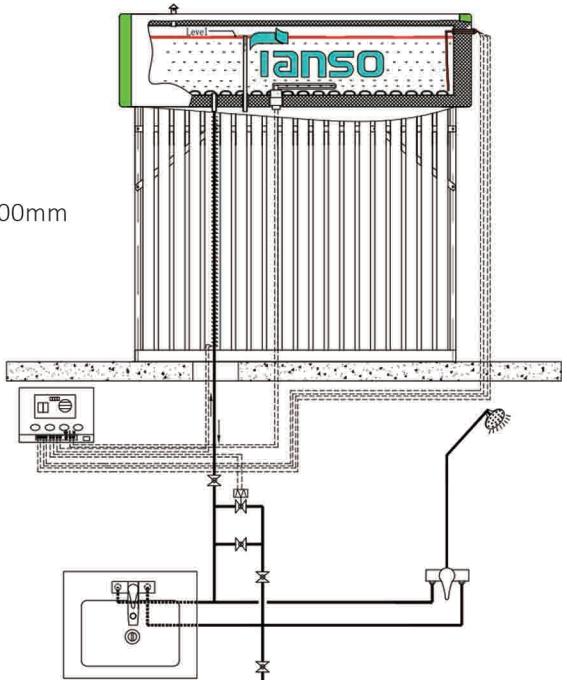
Using thermosiphon system -depending on the different density of hot water and cold water, a water flowing cycle is created in tubes, hot water raising up automatically and the cold water flowing in the bottom, we call it as the gravity system too.

Characteristic

- ✓ Adopt most economic material (outer tank and support).
- ✓ Most reliable, cost saving, efficient hot water heating solution.
- ✓ Simple structure, easy installation, labor cost saving.
- ✓ Automatic operation with intelligent controller.
- ✓ Low maintenance cost.

Premium Materials

- Inner tank: Stainless steel SS304-2B / SS316L
- Outer tank: Galvanized steel /SS304/SS201
- Insulation layer: Polyurethane foam, 41 kg/m³ high density
- Support: Painted galvanized steel
- Vacuum tube: Borosilicate glass 3.3, ALN/AIN-SS/CU coating, Ø58×1800mm
- Capacity: 50L-500L



Optional Accessories

- Electric Heating Element (1.5/2.0 kW)
- Smart Controller with temperature display
- Magnesium Anode Rod (extends tank life)

Product Model	Tube Size	Nos of Tubes	Aperture Area	Capacity(L)	Water Tank Dimension	Loading Qty.	
						20GP(28m ³)	40HQ(68m ³)
TS-NP10	Ø58X1800	10	1.21 m ²	100L	Ø460X955	68	165
TS-NP20	Ø58X1800	20	2.45 m ²	200L	Ø460X1705	40	95
TS-NP30	Ø58X1800	30	3.68 m ²	300L	Ø460X2455	28	68
TS-NP40	Ø58X1800	38	4.67 m ²	400L	Ø460X3055	28	65

Compact Pressurized Heat Pipe Solar Water Heater

100L-300L available



Product Introduction

Tanso Heat Pipe Solar Water Heaters are integrated solar thermal systems designed to deliver pressurized hot water. Ideal for residential applications, they provide a sustainable, easy-to-install, high-efficiency, and reliable solar hot water solution.

Working Principle

The vacuum tube absorb solar energy and convert solar energy into thermal energy, then transfer to the central heat pipe via the aluminum fin. The heat pipe have tiny amount of purified water sealed inside at depressurized condition. When heated, the water inside the heat pipes vaporizes at low temperature (about 25°C), the vapor rises to the condenser and heat energy is conducted to water (inside the tank). When vapor is cooled down, and becomes condensate, falling back to the bottom of heat pipe. By continuously circulating in this way, heat is carried from outside to the water inside the tank.

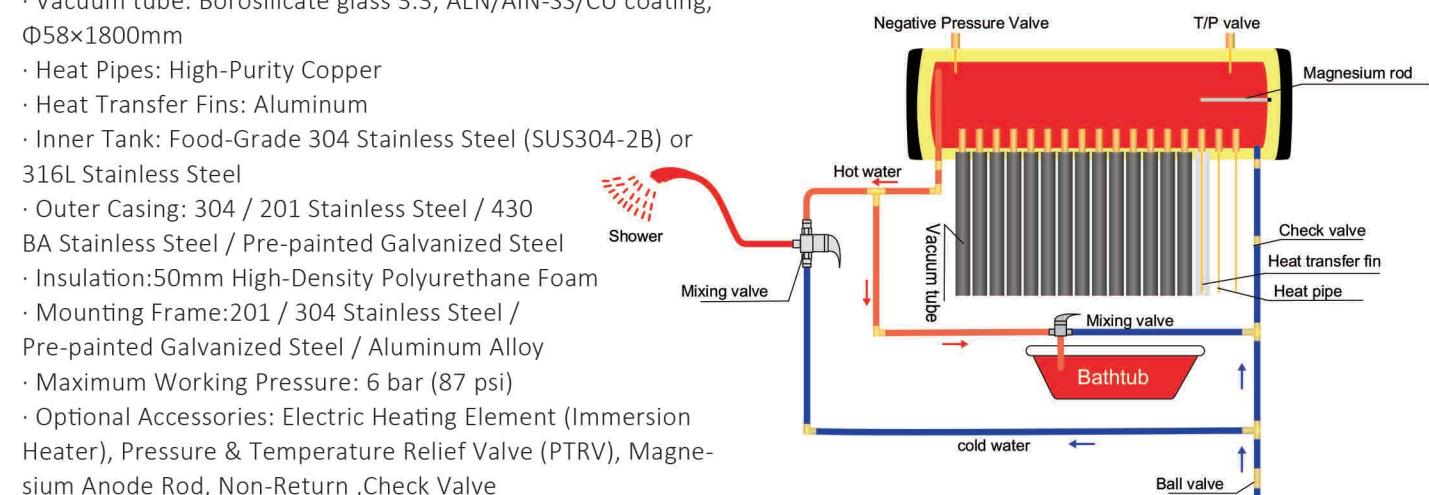
Key Advantages & Benefits

- ✓ Simplified Installation & Maintenance.
- ✓ High pressure system, directly connected with city water without booster pump.
- ✓ Rapid Start-up & High Efficiency: Quick system activation, excellent energy yield, and minimal heat loss.
- ✓ Low temperature resistance, can be used in -50°C condition.
- ✓ Easy to replace individual tube in the event of tube damaged.
- ✓ 10-Year Warranty.



Premium Materials

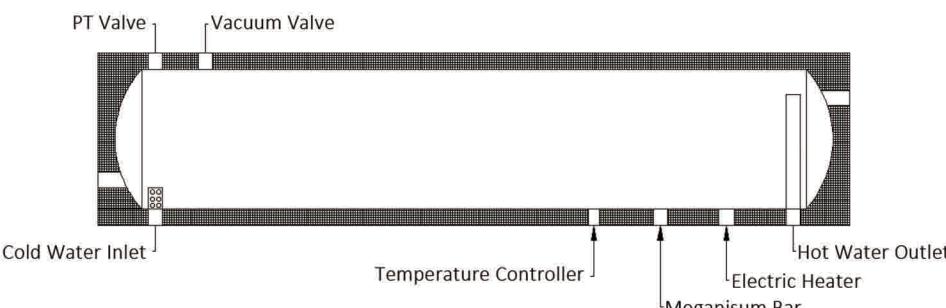
- Vacuum tube: Borosilicate glass 3.3, ALN/AIN-SS/CU coating, Ø58×1800mm
- Heat Pipes: High-Purity Copper
- Heat Transfer Fins: Aluminum
- Inner Tank: Food-Grade 304 Stainless Steel (SUS304-2B) or 316L Stainless Steel
- Outer Casing: 304 / 201 Stainless Steel / 430 BA Stainless Steel / Pre-painted Galvanized Steel
- Insulation:50mm High-Density Polyurethane Foam
- Mounting Frame:201 / 304 Stainless Steel / Pre-painted Galvanized Steel / Aluminum Alloy
- Maximum Working Pressure: 6 bar (87 psi)
- Optional Accessories: Electric Heating Element (Immersion Heater), Pressure & Temperature Relief Valve (PTRV), Magnesium Anode Rod, Non-Return ,Check Valve



Product Model	Tube Size	Nos of Tubes	Aperture Area	Capacity(L)	Water Tank Dimension	Loading Qty.	
						20GP(28m ³)	40HQ(68m ³)
TS-HP10	Ø58X1800	10	1.21 m ²	100L	Ø460X955	70	170
TS-HP20	Ø58X1800	20	2.45 m ²	200L	Ø460X1705	40	100
TS-HP30	Ø58X1800	30	3.68 m ²	300L	Ø460X2455	28	70

Compact Flat Plate Solar Water Heater

A compact flat plate solar water heater uses a simple, efficient design to capture sunlight and heat water. Sunlight passes through a transparent cover (glazing) and strikes a dark, flat absorber plate. This plate heats up and transfers energy to water pipes attached to it. As water circulates through these pipes (either naturally by thermosiphon or with a small pump), it gets heated and flows into an insulated storage tank mounted directly above or beside the collector.



Key Advantages & Benefits

- ✓ Flat water heater is more suitable for places with warm climate, so that the water temperature will not be too high.
- ✓ Enamel inner tank, protects the product from corrosion, scale and frost.
- ✓ Withstanding high pressure (0.6MPa), comfortable shower.
- ✓ It is convenient for transportation and not easy to break.
- ✓ Stronger hail resistance.

Premium Materials

- Inner tank and Jacket: Enamel carbon steel.
- Outer tank: Galvanized steel.
- Insulation layer: Polyurethane foam.
- Support: Painted galvanized steel.
- Flat plate solar collector: 2/2.5m² size, blue titanium coating.
- Working pressure: 6 Bar; Testing pressure: 10 Bar.
- Capacity: 120L-300L.



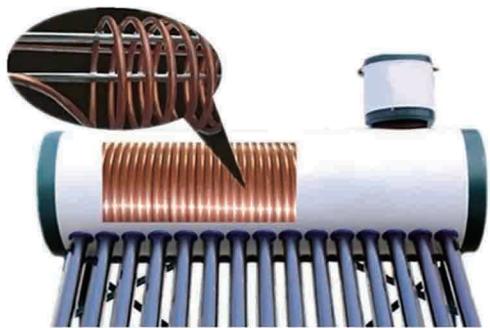
Product Model	Tank Capacity	Tank Size	Flat Plate Size	Flat Plate Qty.	Person No.	Qty/40HQ
TS-FP120	120L	Φ470X1355	1000*2000(mm)	1	2	120
TS-FP150	150L	Φ470X1615	1250*2000(mm)	1	3	105
TS-FP200	200L	Φ520X1730	800*2000(mm)	2	4	96
TS-FP300	300L	Φ580X1833	1000*2000(mm)	2	6	60

Preheated Solar Water Heater

Tanso preheated solar water heater provides mains pressure via a high efficiency copper / stainless steel coil heat exchanger located within the tank. Through the unique heat exchanger, cold water in hot water out immediately, which enables you to enjoy instant hot water. The hot water inside tank is only used for heat storage and exchange.

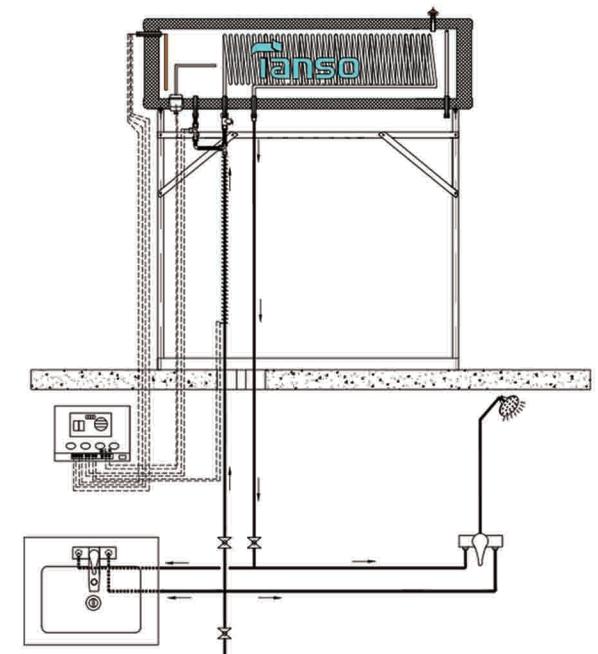
Key Advantages & Benefits

- ✓ Pressure endurance. Heat exchange coil can withstand 6-12 bar.
- ✓ Pre-heated system can supply instant hot water, overcome the disadvantage of traditional system, such as slow heating, long time waiting. Comfortable hot water enjoyment.
- ✓ No water scale, high efficiency. Water in the tank wouldn't be used just to heat the coil, the water in the tank will keep hot and no scale.
- ✓ Anti-freezing: Because of all hot water in main tank, the feed tank won't be frozen. It can be working well in -10deg.C. - good performance in rainy & cloudy days.
- ✓ More capacity: Because the water in tank doesn't be used, in fact the circulation is not only water in the tank but also water in the tube. So for example 300L, actually it has 400L in whole system.



Premium Materials

- Inner tank: Stainless steel 304-2B / 316L.
- Outer tank: Galvanized steel / stainless steel.
- Insulation: Polyurethane foam, 42 kg/m³.
- Bracket: Painted galvanized steel / stainless steel / Aluminium, 20-45 degree angle.
- Vacuum tube: Borosilicate glass 3.3, ALN/AIN-SS/CU coating.
- Heat-exchanger: Copper / Stainless steel pipe.
- Working principle: Direct working withstand pressure.
- Capacity: 150-300 Liters are available.



Product Model	Loading Qty. (set)		System Capacity(L)	Person No.	Loading Qty. (set)	
	Dia. / Len. (mm)	Qty. (pcs)			20GP(28m ³)	40HQ(68m ³)
TS-PH15	Φ58X1800	15	150	3	52	130
TS-PH18	Φ58X1800	18	180	3-4	48	110
TS-PH20	Φ58X1800	20	200	4	42	98
TS-PH24	Φ58X1800	24	240	5	35	86
TS-PH30	Φ58X1800	30	300	6	28	68

Solar Collector

Non-pressure Solar Collector

Application

- Suit for large scale solar water heating project, such as hotel, school, hospital, factory, apartment.etc,
- Hot climate area: all year round operation; Cold climate area: seasonal operation, for example April-October month use.

Working Principle

It's similar to non-pressure solar water heater, non-pressure solar collector it's not a storage water tank, just a manifold. The selective coating absorb the solar energy and converts it into thermal energy for heating water. This type solar collector always used for large scale commercial solar water heating project, hot water between tank and solar collector always circulated by a circulation pump.



Non-pressure solar collector characteristic

- ✓ The round absorber surface of vacuum tubes passively track the sun throughout the day.
- ✓ Available in 25, 30, 50 and 60 tubes model, flexible combination, meeting customers' different requirement.
- ✓ Environmentally friendly, small investment with big payback.
- ✓ Good for large scale solar water heating system installation.
- ✓ Low maintenance.

Series(DN25)	LPC58-1825	LPC 58-1830	LPC 58-1850
Dimensions of collector			
Grid dimensions(l*h*d)(mm)	2160X1938X158	2560X1935X158	3670X2160X158
Gross surface area(m ²)	4	4.87	7.6
Aperture area(m ²)	2.46	2.95	4.92
Technical features			
Collector efficiency(%)	57	57	57
Collector contents	83	100	160
Weight(kg)	146	175	225
Number of tubes	25	30	50
Evacuated tube(mm)	Φ58X1800	Φ58X1800	Φ58X1800
Gap between the tubes(mm)	80		
Tube installation	Vertical	Vertical	Horizontal
Inlet&outlet dimension(mm)	25	25	25
Max.working pressure(bar)	0.5	0.5	0.5
Material			
Inner tank(material/mm)	SUS304/0.5		
Outer tank(material)	Aluminum alloy/SUS 304		
Insulation(Material/mm)	Polyurethane/50		
Other product models (25-50 evacuated tubes,47-1500mm/58-1600mm/58-1800mm /58-2100mm)are available on request.			

Application

- Room heating
- Large scale commercial solar water heating system

Solar Collector

Heat Pipe Solar Collector

- Domestic water heating
- Old heating equipment/system retrofit

Solar thermal collectors working principle

The heat pipe solar thermal collectors always connected with existing water heating device. The selective absorber coating on the inner cover of vacuum tubes absorb solar energy, then convert solar energy into thermal energy and transfer thermal energy to heat pipe by aluminum fin. The heated liquid inside heat pipe change into vapor which rises to the top condenser, then thermal energy heat transfer liquid pass through heat exchanger and the cooled vapor becomes liquid, returning to the base of heat pipe.

The characteristic of solar thermal collectors

- ✓ Higher efficiency $\eta_0 = 0.638$ (aperture area).
- ✓ Low temperature resistance, heat pipe freeze protected, even can be work under -50°C ambient, so can be used all year round in cold climate area.
- ✓ No water inside vacuum tube, so vacuum tube will not break in the winter frozen weather.
- ✓ In the event of a tube damaged, the whole system will still keep working, just remove and replace, low cost.
- ✓ Combined with building perfectly, ideal for slope roof or flat roof installation.
- ✓ It can be combined with existing water heating device easily.
- ✓ Tube can be replaced without draining solar fluid.
- ✓ Significant advantages over flat plate.
- ✓ Low maintenance.

Premium Materials

- Vacuum tube: Borosilicate glass 3.3, ALN/AIN-SS/CU coating, Φ58×1800mm.
- Heat pipe condenser: Φ14mm red copper.
- Heat pipe: Φ8mm red copper.
- Heat transfer fin: Integrated aluminium fin.
- Manifold casing: Aluminium alloy 6063-T5.
- Main tube: Φ27*1mm; Risers: Φ16*1mm.
- Inlet/outlet: Φ22mm(3/4 and 1inch).
- Insulation layer: Polyurythan+Infrared reflective film+Glass Wool.
- Frame: Aluminium alloy.
- Working pressure: 0.6MPa.
- Max. working pressure: 1.2MPa.
- Ambient temperature: ≥-50°C.



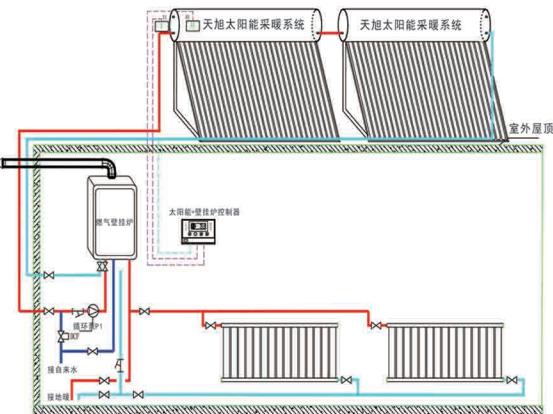
Model	Loading Qty. (set)		Size(mm)	Gross Area(m ²)	Power output(w)	Loading Qty. (set)	
	Dia. / Len. (mm)	Qty. (pcs)				20GP	40HQ
TS-HPC10	Φ58X1800	10	1933X840	1.62	550	164	394
TS-HPC15	Φ58X1800	15	1933X1230	2.38	825	131	353
TS-HPC20	Φ58X1800	20	1933X1620	3.14	1100	100	238
TS-HPC25	Φ58X1800	25	1933X2010	3.89	1375	88	210
TS-HPC30	Φ58X1800	30	1933X2400	4.64	1650	74	177

The "Solar Thermal+" clean heating system

It prioritizes solar heat, automatically switching to the auxiliary heating system only when solar heat is inadequate. Once restored, it seamlessly reverts to solar heating mode.

How It Works

- Solar Harvesting-Two 50-tube solar collector units absorb sunlight, heating water in a storage tank.
- Solar Heating Mode (Primary)-When the solar tank reaches the set temperature (Default: 45°C / 113°F): The solar circulation pump activates. Heat is transferred indoors via a heat exchanger connected to the boiler loop. The boiler circulation pump distributes warmth throughout your home. Pumps stop if room temperature reaches set-point (Default: 16°C / 61°F) or if solar tank temperature drops below 45°C.
- Backup Gas Boiler Mode-Automatically engages when solar energy is insufficient, ensuring uninterrupted heating comfort.



Tangible Benefits

- ✓ Significant Energy Savings: Drastically reduce gas consumption using free solar heat.
- ✓ Extended Comfort Season: Enjoy free early-season heating & late-season warmth beyond the standard heating period.
- ✓ Year-Round Hot Water: Provides reliable domestic hot water throughout all four seasons.
- ✓ Enhanced Comfort & Value: Reliable temperature control significantly improves quality of life.

Proven Success:

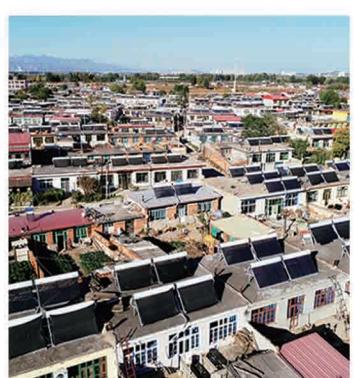
Jinchang City, Gansu Province Project

Scale: 25,000 households upgraded

Per-Household Solution:

- 2 x Solar Thermal Collector Units
- 1 x 20 kW Gas Boiler
- 1 x Intelligent Controller

Performance: Efficiently heats homes of 40-60 m² (430-645 sq ft)



Solar Thermal+ Biomass Boiler



Solar Thermal+ Electric Boiler



Solar Thermal+ Electric Heating



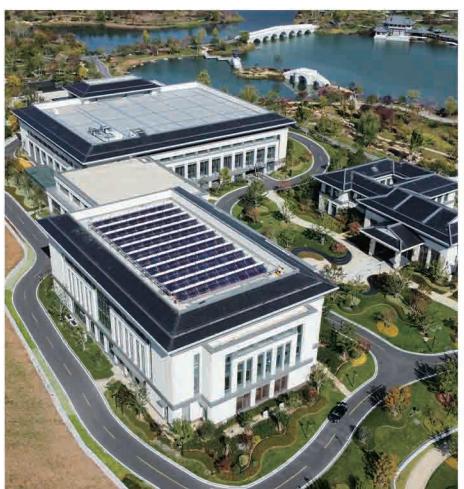
Solar Thermal+ Air-Source Heat Pump

Household project case



Experience the future of clean, intelligent heating with "Solar Thermal"!

Commercial case



Product Accessories



pump station



TK7 Controller



TK7Y Controller



Solar Water Tank



Solar Pump Station SR962S



TK8 Pro Controller



Solar Controller SR501



Solar Controller SR609C



Solar Pump Station SR881



Solar Controller SR81



Electric Heater



Circulation Pump RS-15/6



Twin Way Pre Insulated Solar Hose



Thermostatic Mixing Valve