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2015-9



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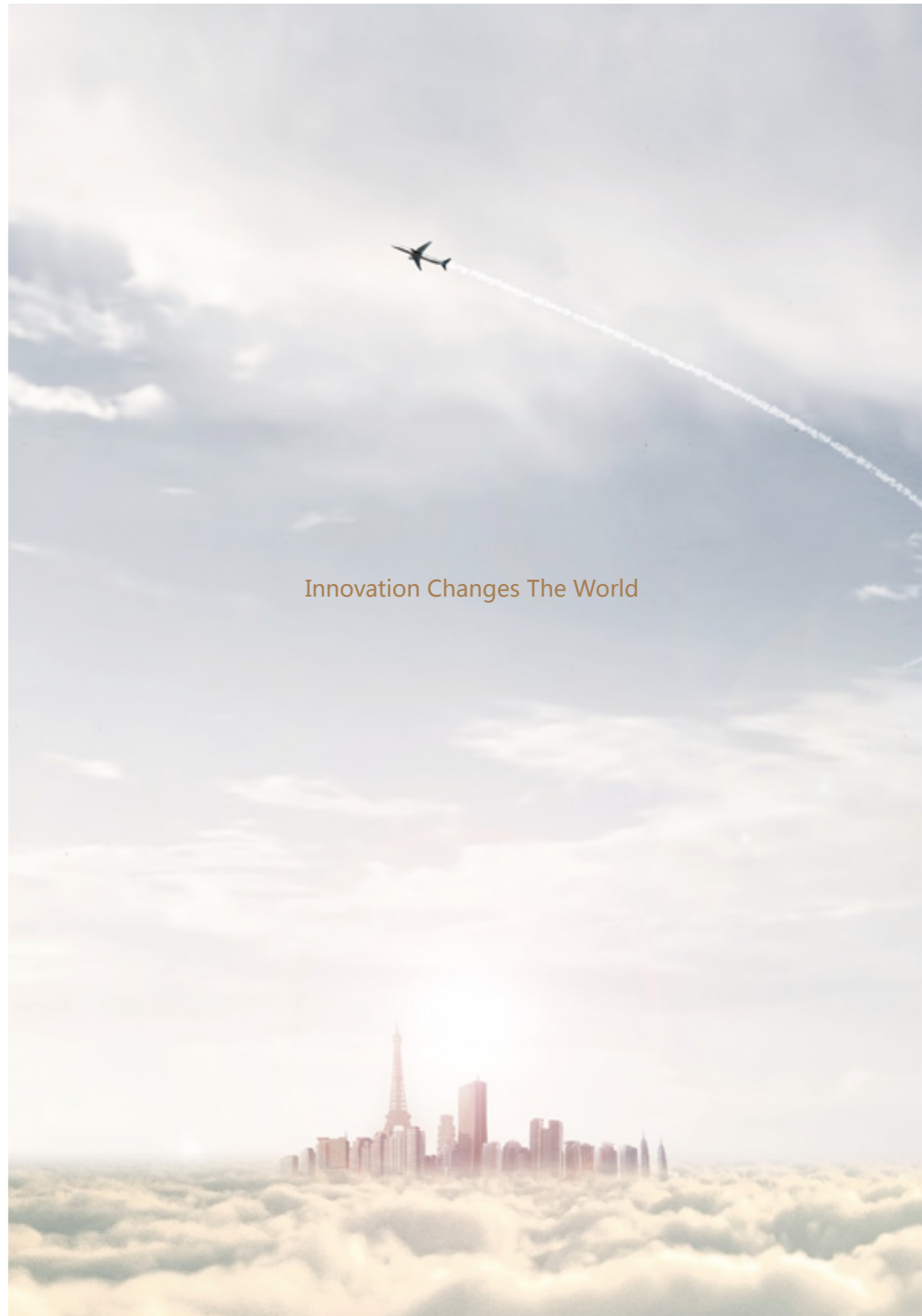
<http://sunfullsolar.gmc.globalmarket.com>

SUNFULL SOLAR
WATER HEATER

SUMMIT SOLAR



Innovation Changes The World



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⇒ Company Profile

Haining Sunfull Solar Technology Co., Ltd., located in Haining city Zhejiang province, is a hi-tech enterprise which is specialized in the research and manufacture of solar vacuum tubes, solar water heaters and solar collectors. With advanced technology and comprehensive facilities, we have an annual production capacity of 70,000 solar water heaters.

Our company has passed the certification of ISO9001:2000 international quality management system, and acquired CE and CCC approval on all products. Our varied series of solar water heating systems can satisfy the various requirements from different customers. And we can also design and supply solar products for large-scale water heating project.

Relying on the new design, reliable quality and excellent service, our products are not only sold to 20 provinces in China but also exported to more than 30 countries throughout Europe, Middle East, Asia, Latin America, Africa, etc.

If you are interested in any system, please feel free to contact us at any time. We are looking forward to being your qualified partner in the near future!

Sunfull Solar technology, quality is the hard truth



Enterprise Culture Concept: Explore makes sunshine change life, change to green world. This is the principle of the survival to which Sunfull has been adhering, to realize the sustainable development of energy and share the sunshine with creator.

Enterprise Innovation Concept: Every day, we innovate for human life demand, for breakthrough self, for sustainable energy, for blue sky and clean water. The pace of the innovation depends on our progress; Here is the innovation to develop our future.

Enterprise Value: Sustainable Innovation

Enterprise Spirit: Innovation,Enterprising,Improving

Enterprise Prospective: In order to achieve the blue sky white clouds, we share the sustainable alternative energy

Enterprise Mission: Reputation is the base for marketing

Service Concept: Loyalty between customers and us



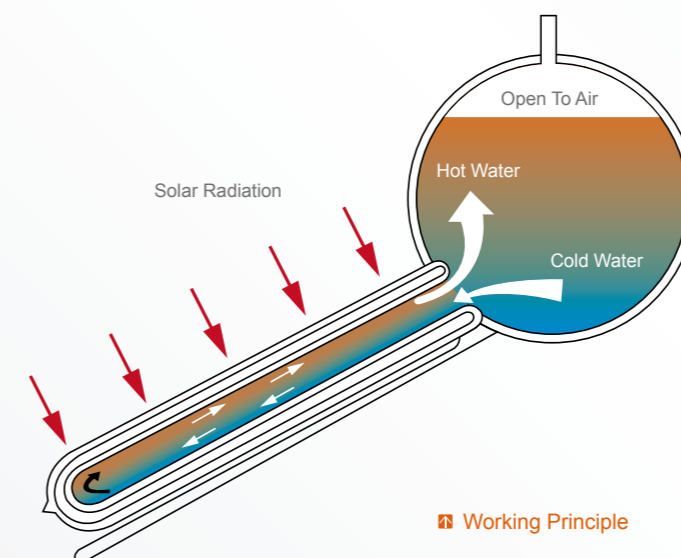
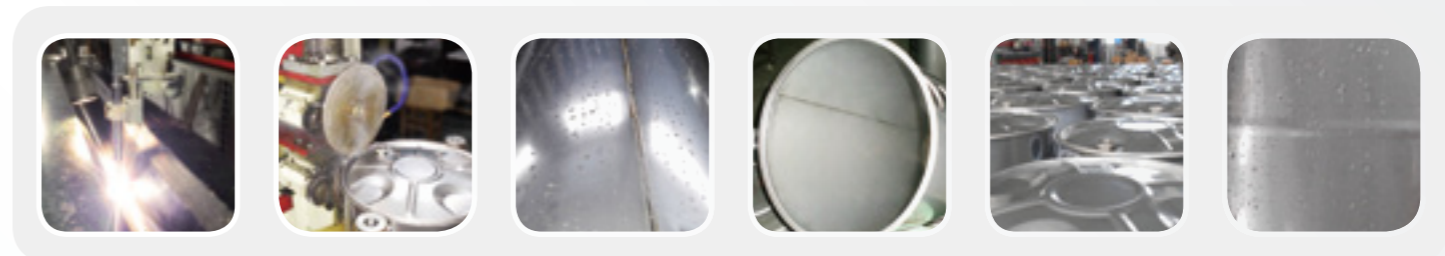
⇒ PRODUCTS

⇒ Non-Pressurized Solar Water Heater Galvanized Steel Series (CNP-GS)



Feature:

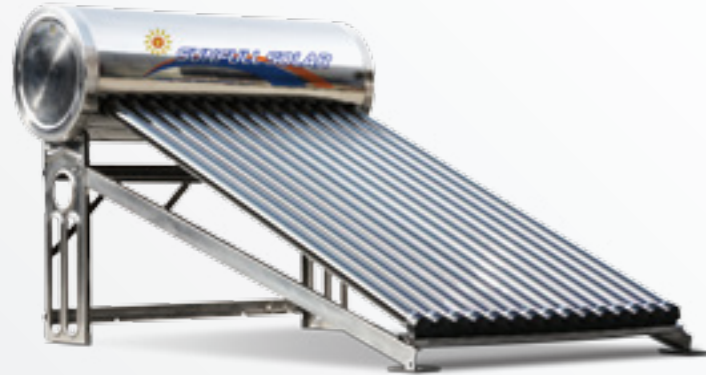
- Argon welding technology for inner tank guarantees a watertight system for durable useful-life.
- Tight polyurethane foaming ensures high heat-preservation ability.
- Optional electric heating device can be used in rainy,cloudy and cold days.
- Anticorrosive bracket furnish steady support for different capacities.



Specifications:

- Inner Tank: SUS304-2B(food grade) Stainless Steel
- Outer Tank: Galvanized Steel
- Insulation Layer: Polyurethane Foaming
- Bracket: Galvanized Steel
- Vacuum Tube: Φ47x1500mm, Φ58x1800mm
- Tube Number: 10,12,15,18,20,24,30,36pcs
- System Capacity: 100~360L
- Heat Preservation: 72 hours
- Hail Resistance: 25mm
- Optional Accessories: Assistant Tank,Electric Heater,Controller,Magnesium Anode,etc.

➤ Non-Pressurized Solar Water Heater Stainless Steel Series (CNP-SS)



Specifications:

- Inner Tank: SUS304-2B(food grade) Stainless Steel
- Outer Tank: Stainless Steel
- Insulation Layer: Polyurethane Foaming
- Bracket: Stainless Steel
- Vacuum Tube: $\Phi 47 \times 1500 \text{mm}$, $\Phi 58 \times 1800 \text{mm}$
- Tube Number: 10,12,15,18,20,24,30,36pcs
- System Capacity: 100~360L
- Heat Preservation: 72 hours
- Hail Resistance: 25mm
- Optional Accessories: Assistant Tank,Electric Heater,Controller, Magnesium Anode,etc.

Aluminium Alloy Series (CNP-AL)

Specifications:

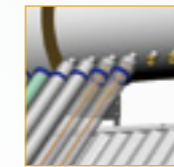
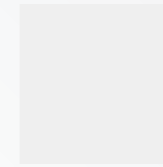
- Inner Tank: SUS304-2B(food grade) Stainless Steel
- Outer Tank: Galvanized Steel / Stainless Steel
- Insulation Layer: Polyurethane Foaming
- Bracket: Aluminium Alloy
- Vacuum Tube: $\Phi 47 \times 1500 \text{mm}$, $\Phi 58 \times 1800 \text{mm}$
- Tube Number: 10,12,15,18,20,24,30,36pcs
- System Capacity: 100~360L
- Heat Preservation: 72 hours
- Hail Resistance: 25mm
- Optional Accessories: Assistant Tank,Electric Heater,Controller, Magnesium Anode,etc.



Compact Pressurized Solar Water Heater With Heat Pipe

Feature:

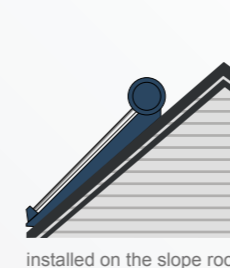
- Pressurized type supplies hot water efficiently,and can be connected directly with city water.
- It uses heat pipes to transmit heat energy and works rapidly.
- Because of no water in the vacuum tubes,the tubes will not be frozen to break in the winter.
- Each vacuum tube works alone,so the system can be still in service even with occasional tube breakage.
- Simple structure,easy to assemble and install.



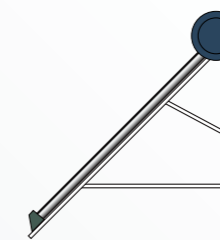
Specifications:

- Inner Tank: SUS304-2B(food grade) Stainless Steel
- Outer Tank: Galvanized Steel / Stainless Steel
- Insulation Layer: Polyurethane Foaming
- Bracket: Galvanized Steel / Stainless Steel
- Heat Pipe Vacuum Tube: 3-Target Vacuum Tube with AlN/AlN-SS/CU coating and Copper Heat Pipe inside
- Size: $\Phi 58 \times 1800 \text{mm}$
- Tube Number: 15,18,20,24,30pcs
- System Capacity: 150~300L
- Working Pressure: 0.7Mpa(7 Bars)
- Optional Accessories: Electric Heater,Controller,Magnesium Stick,Reflector and so on.

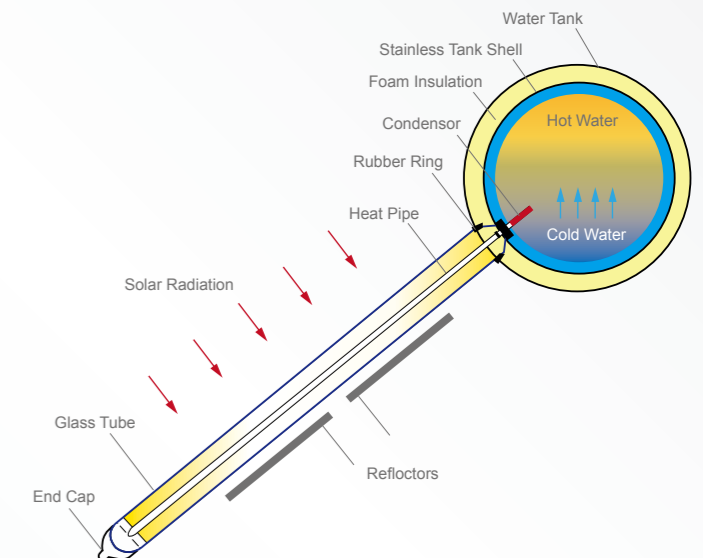
➤ Working Principle:



installed on the slope roof



installed on the flat roof



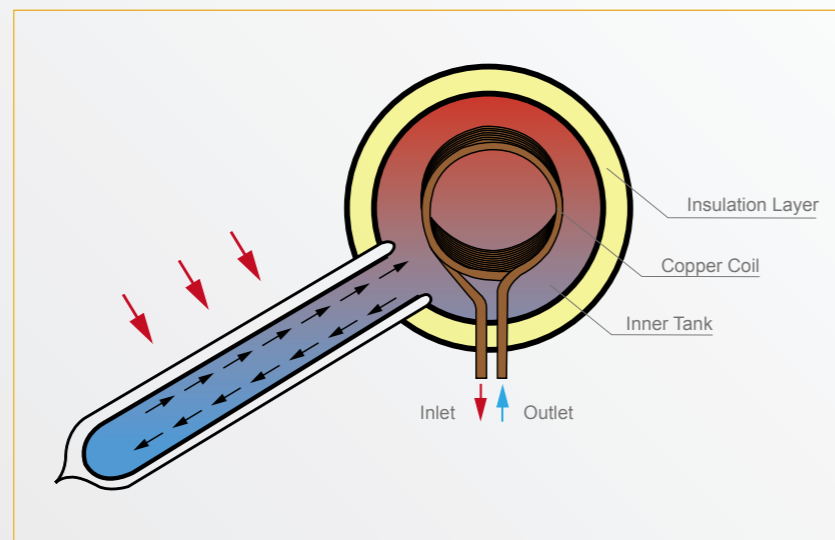


Compact Pressurized Solar Water Heater With Copper Coil

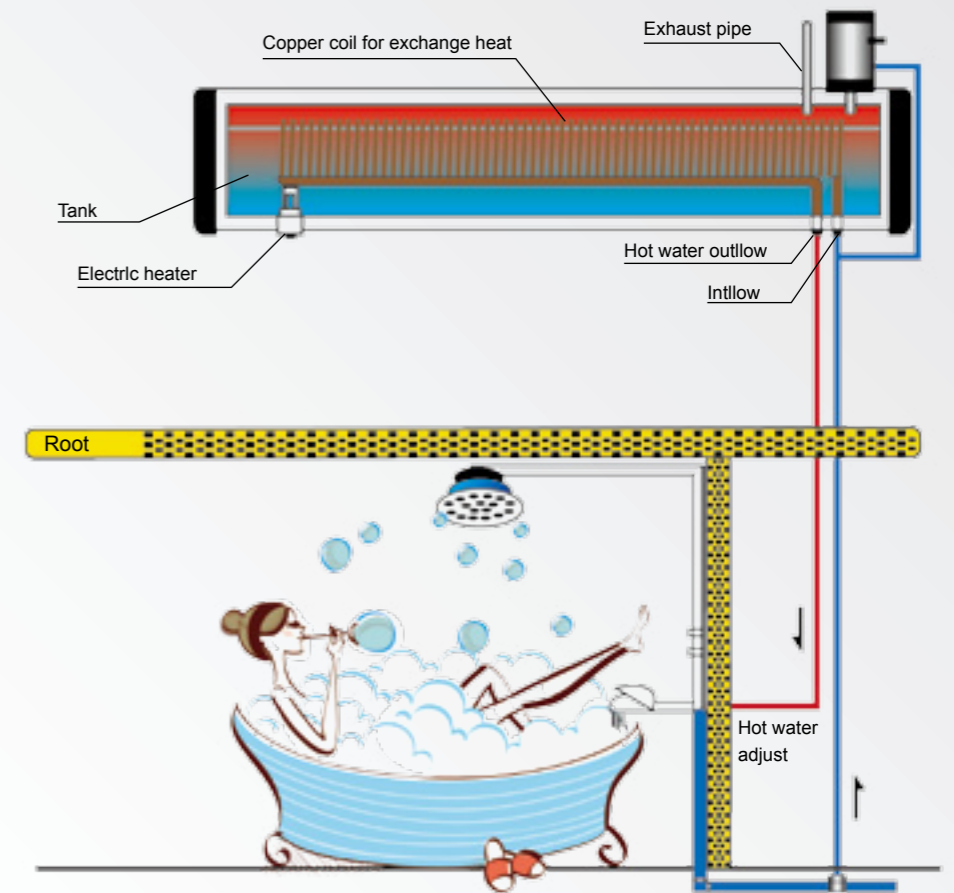
Feature:

- Pressurized type supplies ample hot water to improve your bath.
- Copper coil achieves instant transition of heat energy.
- Closed loop system with copper coil inside can bear 7 bar working pressure .
- Fresh hot water supply is ideal for home applications.

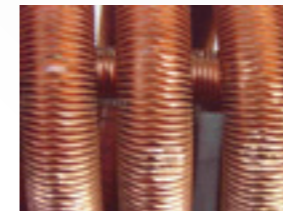
Working Principle



Compact Pressurized Solar Water Heater With Copper Coil



Copper Coil



Specifications:

- Inner Tank: SUS304-2B(food grade) Stainless Steel
- Outer Tank: Galvanized Steel
- Insulation Layer: Polyurethane Foaming
- Bracket: Galvanized Steel
- Heat Pipe Vacuum Tube: 3-Target Vacuum Tube with AlN/AlN-SS/CU coating and Copper Pipe inside
- Size: $\Phi 58 \times 1800 \text{mm}$
- Tube Number: 15,18,20,24,30pcs
- System Capacity: 150~300L
- Optional Accessories: Electric Heater, Controller, Magnesium Anode, Reflector and so on.

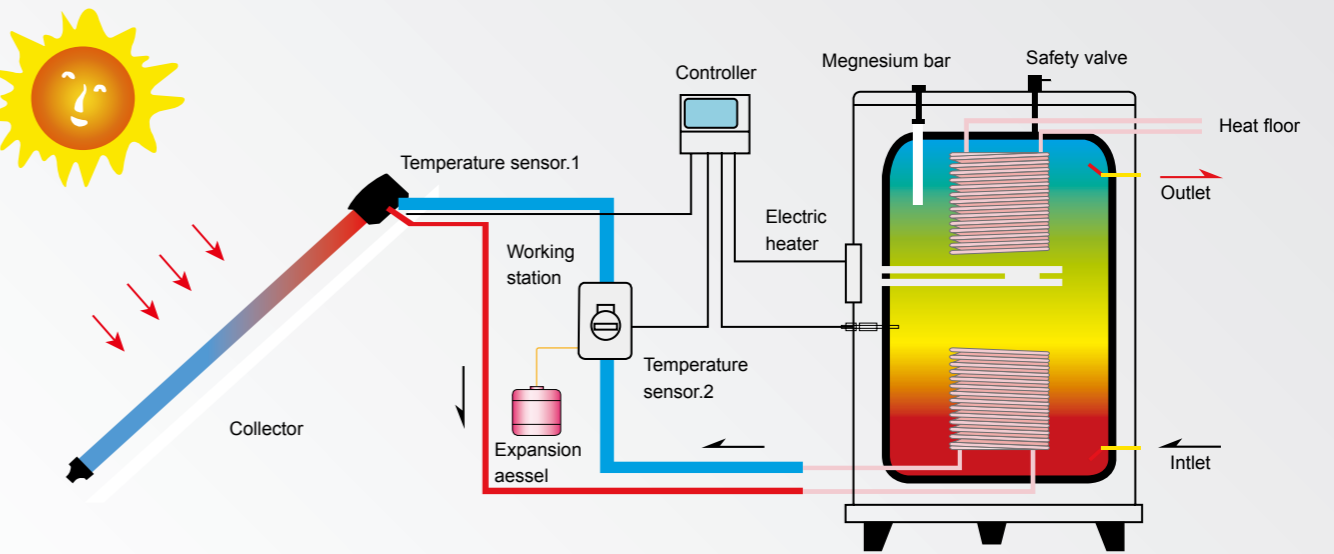
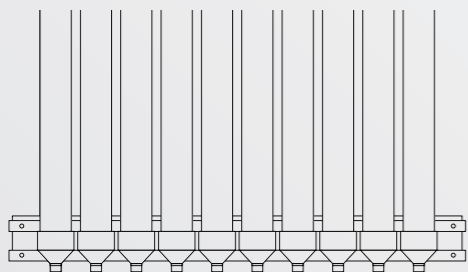


➤ Split Pressurized Solar Water Heater



Feature:

- Pressurized type, no water flow through solar collector.
- Use copper coil to achieve instant transition of heat energy.
- Heat transmission medium transfer heat energy efficiently via copper coil.
- It can be connected with your existing boiler or gas heater.
- Separated installation ensures it can be combined with the buildings ideally.



Working Station



circulation pump



controller



expansion vessel

➤ Split Pressurized Solar Water Heater



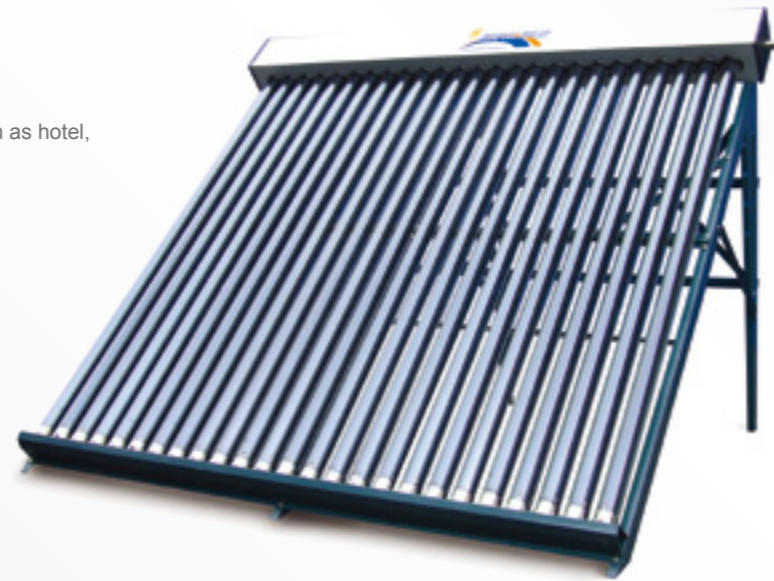
Specifications:

1. Tank
 - Inner Tank: SUS304-2B(food grade) Stainless Steel
 - Outer Tank: Galvanized Steel
 - Insulation Layer: Polyurethane Foaming
 - Capacity: 100L, 200L, 300L, 500L, 1000L
2. Solar Collector
 - Heat Pipe Vacuum Tube: 3-Target Vacuum Tube with AlN/AlN-SS/CU coating and Copper Pipe inside
 - Size: $\Phi 58 \times 1800 \text{mm}$
 - Manifold interior: Copper Header Pipe
 - Manifold exterior: Aluminium Alloy
3. Bracket: Aluminium Alloy / Galvanized Steel
4. Working Pressure: 0.7Mpa(7 Bars)

➤ Non--Pressurized Solar Collector

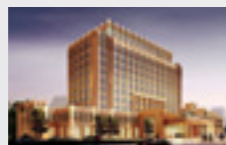
Feature:

- No-pressurized solar collectors are suitable for project,such as hotel, hospital,school and so on.
- Connect in series for big capacity hot water supply
- Stable solar conversion during the day
- Ideal for commercial applications and industry using



Specifications:

- Manifold interior:SUS304-2B(food grade)Stainless Steel.
- Manifold exterior: Galvanized Steel / Stainless Steel
- Bracket: Galvanized Steel
- Vacuum Tube: All-glass Vacuum Tube with AL-N/AL coating
- Type:Vertical or Horizontal
- Tube Number: 10,15,20,30,40,50,60pcs
- We can produce vertical or horizontal non-pressurized solar collectors with different tube numbers for your solar projects.



Hotel



Hospital

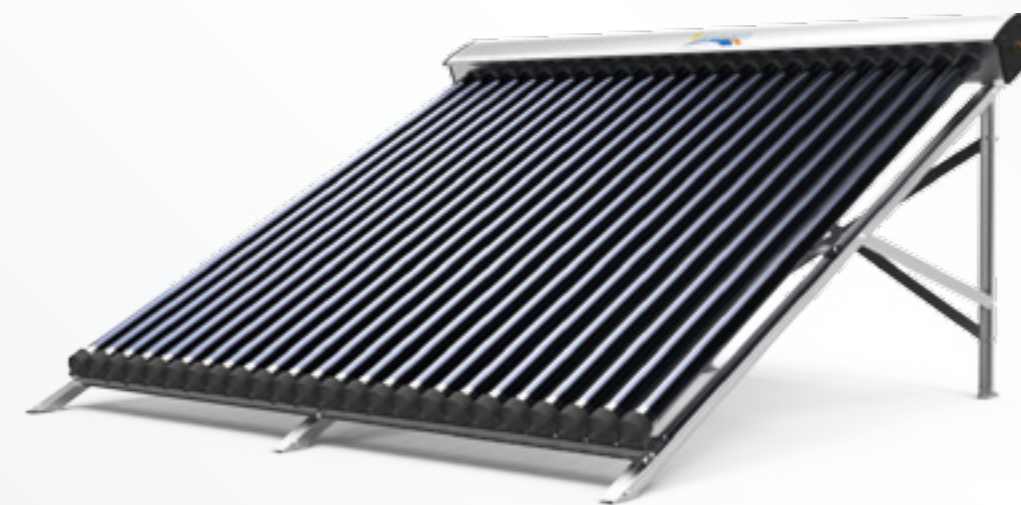
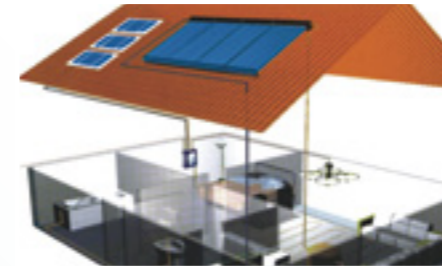


School

➤ Pressurized Solar Collector With Heat Pipe

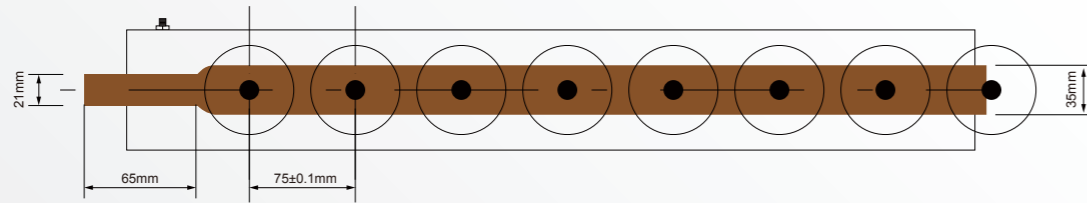
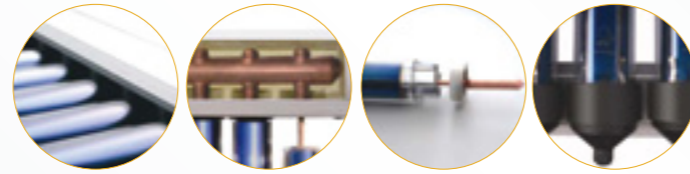
Feature:

- Pressurized solar collectors are suitable for both home and commercial application.
- Using copper heat pipes for high-efficient heat collecting and rapid heat transfer.
- Attractive design and standard frame suitable for pitched roof or flat roof.
- No water in vacuum tubes,so the tubes will not break even in the winter.
- It can be still operate in the event of occasional tube breakages.



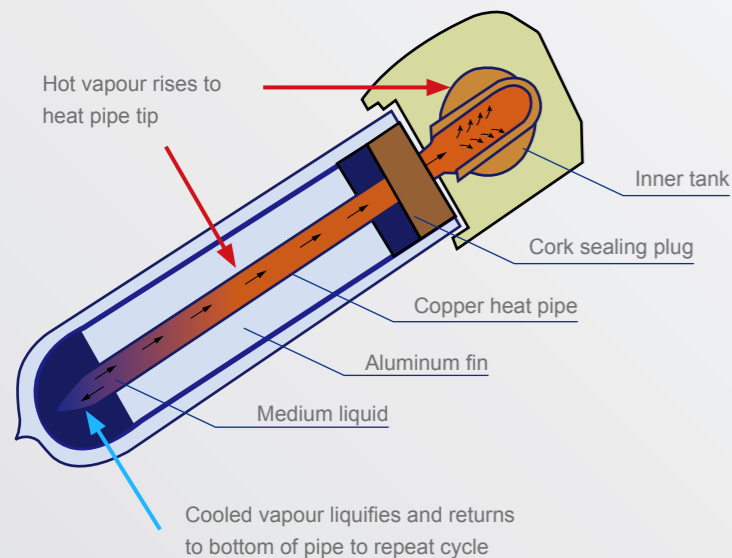


Pressurized Solar Collector With Heat Pipe

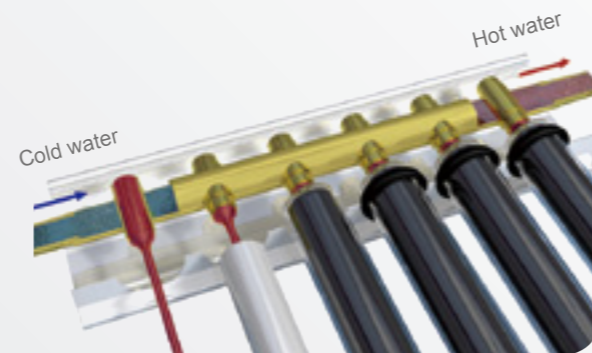


Specifications:

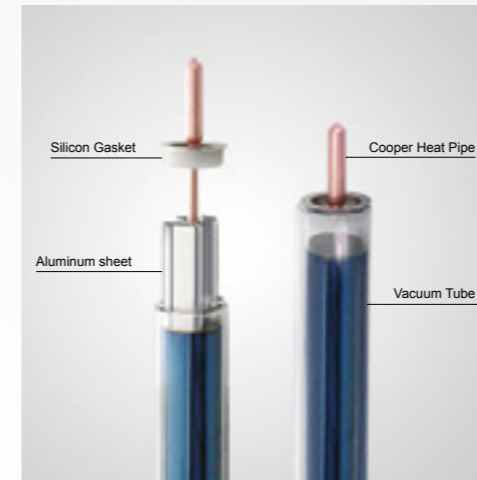
- Manifold interior: Copper Header Pipe
- Manifold exterior: Aluminium Alloy
- Bracket: Aluminium Alloy / Galvanized Steel
- Vacuum Tube: All-glass Vacuum Tube with AlN/AlN-SS/CU coating and a Copper Pipe inside.
- Tube Numbers: 10,15,20,25,30pcs



Working Principle



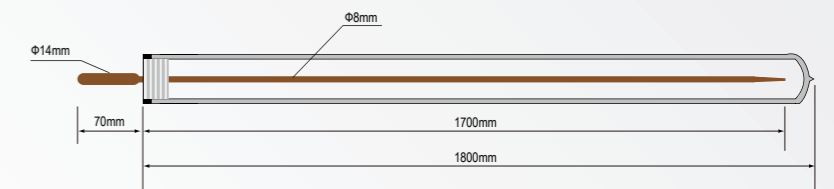
Heat Pipe Vacuum Tube



Feature:

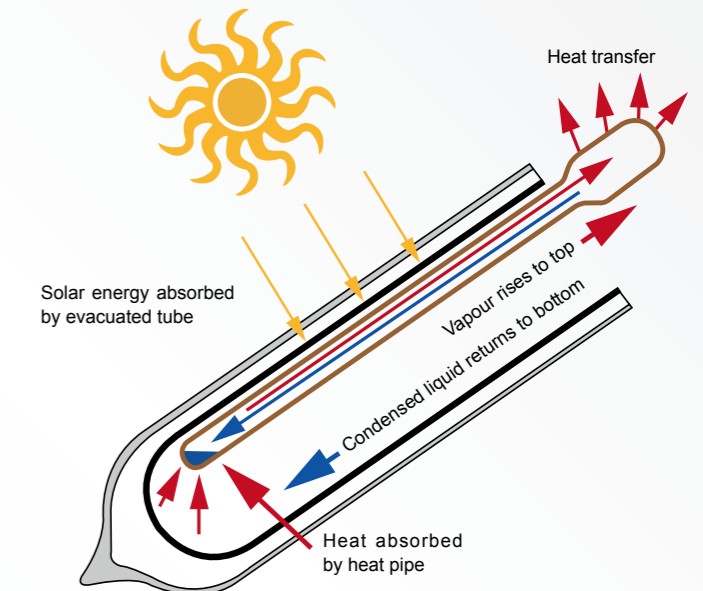
A perfect combination of the vacuum tube and the heat pipe

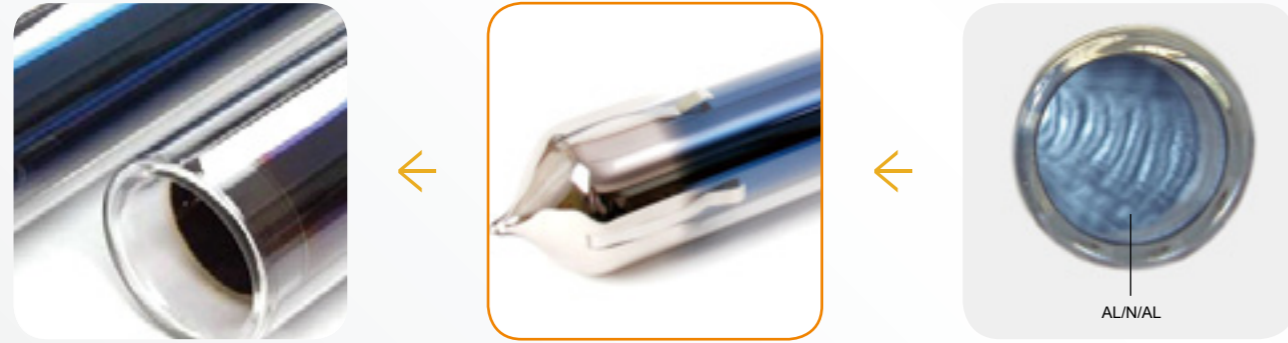
- Higher heat efficiency: advanced heat transferring style of the heat pipe, excellent selective absorbent coating and perfect combination with high vacuum heat preservation.
- Wide applicable range: as the heat pipe has less heat capacity, it can be started quickly even under cloudy fine day and collect heat effectively. It can work normally even -30 below degree. As no water in the vacuum tube, it can effectively prevent lowering of heat efficiency due to frost cracking or scaling.
- Each individual tube can work independently, and the whole machine can still work if individual tube is damaged. The service life of the heat pipe can be longer than 15 years.
- The unique connection between the heat pipe and the vacuum tube can ensure both sealing and replance of damaged glass vacuum tube.



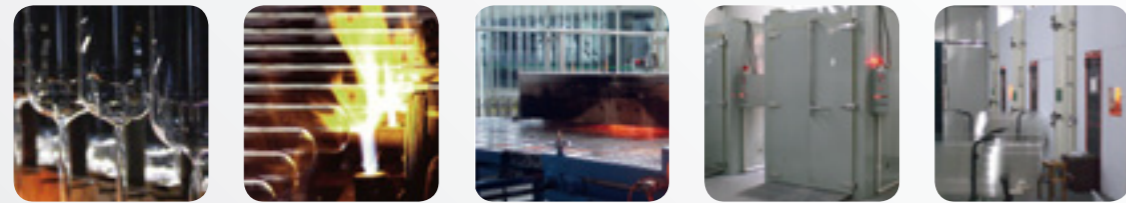
Working Principle:

The selective coating on the inner cover of the evacuated tubes converts solar energy into heat energy and transfers heat to the heat pipes by aluminum fins. The liquid in the heat pipe changes into vapour which rises to the condenser. The heat then passes through the heat exchanger and the vapour becomes liquid. Returning to the base of the heat pipe, the heat conducts to the heat transfer liquid (anti-freezing liquid or water) via 8 copper pipe. This transference of heat into the liquid creates a continuous circulation as long as the collector is heated by the sun.



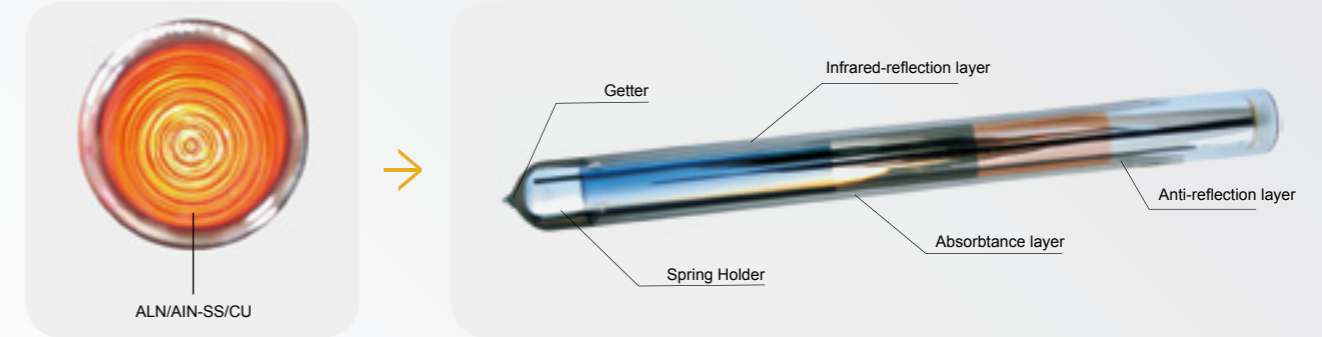


Single-target Vacuum Tube



Single-target vacuum tube performance and specification	
Tube structure	All-glass double deck co-axial structure
Glass material	High borosilicate 3.3 glass
Outer tube diameter and glass thickness	Φ47 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ58 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ70 ± 0.7mm; Glass thickness 2.0 ± 0.15mm
Inner tube diameter and glass thickness	Φ37 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ47 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ58 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
Tube length	800mm,1200mm,1500mm,1600mm,1800mm, 1900mm,2000mm,2100mm etc
Absorption coating property	Coating material AL/AL-ALN(H)/AL-ALN(L)/ALN
	Sediment method Single target magnetron sputtering plating
	Absorptivity Absorptivity:a=0.90~0.93(AM1.5)
	Emission ratio Emission : Σ=0.05~0.075 (80°C ± 5°C)
Vacuum degree	P≤5.0x10 ⁻³ (PA)
Stagnation temperature(temperature inside of empty evacuated tubes)	220~260°C
Average heat loss	ULT0.6~0.7W/(m ² *°C)
Hail resistance	Φ25mm
Pressure-endure	1Mpa

Three-target Vacuum Tube

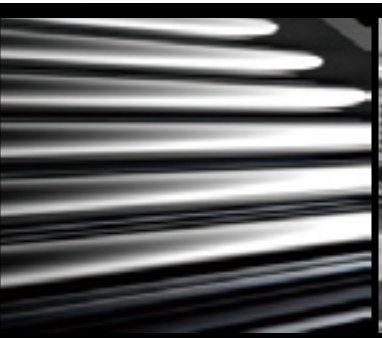
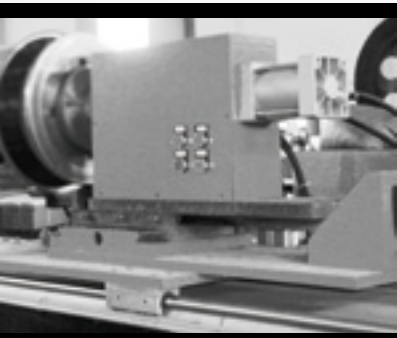


Feature:

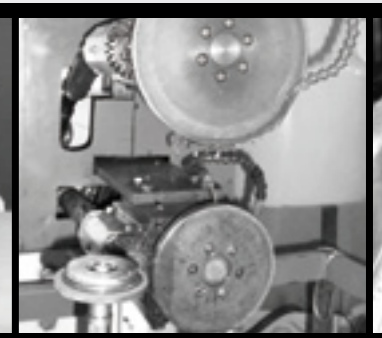
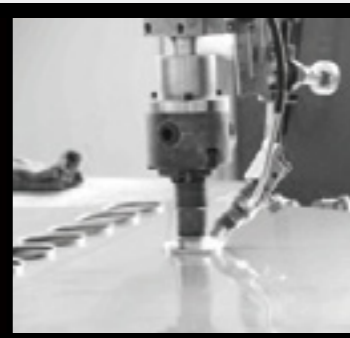
Sunfull Solar Vacuum tubes assimilate the advanced 12 layers of sputtering deposition of trivalent element technology,high borosilicate glass,gradual change of ALN/AL N-SS/CU selective complex absorptive coating.And these make vacuum tubes have high performance of absorptance and low reflection ratio. Through the interlayer,vacuum has a unique effect of thermo,with its temperature UP to 380°C of idie sunning ,performing a strong heating ability.



Single-target vacuum tube performance and specification	
Tube structure	All-glass double deck co-axial structure
Glass material	High borosilicate 3.3 glass
Outer tube diameter and glass thickness	Φ47 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ58 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ70 ± 0.7mm; Glass thickness 2.0 ± 0.15mm
Inner tube diameter and glass thickness	Φ37 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ47 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
	Φ58 ± 0.7mm; Glass thickness 1.6 ± 0.15mm
Tube length	800mm,1200mm,1500mm,1600mm,1800mm, 1900mm,2000mm,2100mm etc
Absorption coating property	Coating material CU/SS-ALN(H)/SS-ALN(L)/ALN
	Sediment method Three target magnetron sputtering plating
	Absorptivity Absorptivity:a=0.92~0.96(AM1.5)
	Emission ratio Emission : Σ=0.04~0.006(80°C ± 5°C)
Vacuum degree	P≤5.0x10 ⁻³ (PA)
Stagnation temperature(temperature inside of empty evacuated tubes)	260~300°C
Average heat loss	ULT0.4~0.6W/(m ² *°C)
Pressure-endure	1Mpa



Superb
Technology



➔ **EQUIPMENT**

