

**PRO** pressurized solar water heater



IronMan-100L  
IronMan-150L  
IronMan-200L  
IronMan-300L

Simple/Secure/Smart

PROFESSIONAL\* INNOVATION\*QUALITY

## Foreword

### Dear customers:

Congratulations on your purchase of high efficient solar water heaters PRO, Installing for superior performance in order to operate reliably at optimal efficiency, it must be correctly installed. Please ensure that you employ the services of a certified installer who will ensure the Installation follows the manufacturer's guidelines and meets all government and health regulations. The PRO system has been designed with ease of installation as one of the key design features.' This manual includes a clear step by step installation guide. If you come across any issues which is not covered by this manual during the installation, please contact with your accredited installer or representative agent.

## Specification Characteristics:

### Specification Characteristics : New high pressurized solar water heater -PRO

1. Start up quickly, heat pipe transfer the heat energy into the storage tank swiftly.
2. Withstand pressure of max 10bar, can be connected with city water directly, work automatically.
3. The storage tank and the heat pipe mechanical sealed, the solar water heater can still work even with several tubes breakage.
4. With reasonable design and choose excellent material, the inner tank is without any breakage after one hundred thousand time's high pressure testing.
5. High density polyurethane foam, well insulation.
6. Can be installed in series and parallel to be a solar hot water system.
7. Can be connected with gas water heater and small boiler, also can preheat the water in advance.
8. Can be installed in anywhere ( for example, you can install the solar water heater on the ground of the garden, and use the hot water on the third floor).

### Heat Pipe Advantages:

1. Transfer the heat energy quickly, we use special medium in the heat pipe and it can transfer the heat energy more than 1000 times faster than copper.
2. Highly efficient absorber, it increase 20% or more than ordinary solar water heater.
3. No water and no water scale inside the evacuated tubes, the tubes will not be cracked even if during - 40 Degree..
4. Withstand pressure of 0.7 Mpa, can be connected with the city water directly.
5. Can still work even with several tubes breakage. The water will not flow out from the storage tank.
6. Can be used in sunny days even if in the extreme cold climate.

please check the manual before intallation



100/150/200/300L

Pressurized Solar Water Heater

### WATER TANK

Material of Outer Tank Shell	SUS-304-2B Stainless Steel 0.45MM
Material of Inner Tank Chest	SUS-304-2B/316L
Water Tank Diameters	【470/360MM】
Water Tank Insulating Layer	Imported Polyurethane 【55MM】
Heat Preservation Period	72~80 Hours

### Vacuum Tube(heat Pipe)

Tube Structure	All-Glass Double-Tube Co-Axial Structure
Glass Material	High Borosilicate 3.3 Glass
Tube Size	58*1800MM * 【10/15/20/30 Tubes】
Heat Pipe Material	TU1 Copper
Heat Pipe Size	Ø14mm Diameter
Heat-Transfer-Fin	Premium Complete Type (Super Model)
Maximum Operation Pressure	【1.2Mpa】
Heat pipe Condenser Pocket	【316L】

### Bracket

Bracket Material	Stronger Galvanized Steel/Stainless Steel
Bracket Angle	【30°】
Bolts & Nuts	Stainless Steel



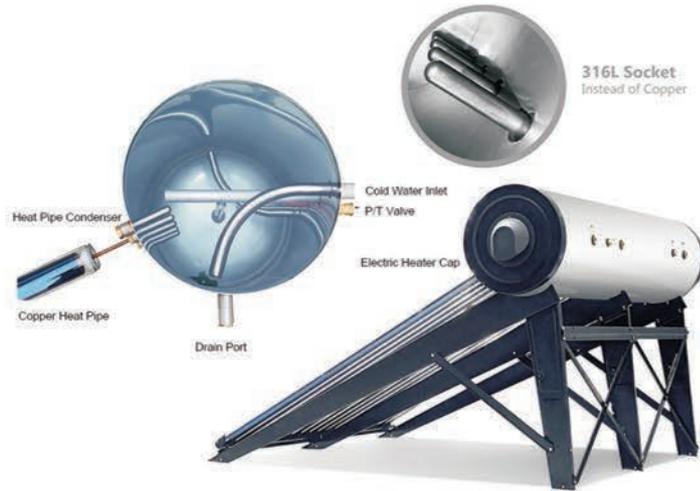
### UNIQUE DESIGN

With ADJUSTABLE bracket  
(suitable for both flat roof and sloop roof).  
New designed vacuum tube holder:  
New design electric element cover:  
316L stainless steel socket.



## Water Tank Description

Adopting 316L/SUS-304-2B stainless steel as inner chest material in the meantime, use 316L stainless steel as heat socket, and high density PU foam as insulation material. Which makes solar heaters outstanding in the market!



## Technical Parameter

MODEL	Vacuum Tube		Capacity (L)	Absorber Area (M2)	Suitable for (Persons)
	Pcs	Size(mm)			
【PRO-100L】	10	58×1800	100	1.33	2~3
【PRO-150L】	15	58×1800	150	1.995	6
【PRO-200L】	20	58×1800	200	2.66	8
【PRO-300L】	30	58×1800	300	3.99	12~13



## Vacuum Tube Holder

New Aesthetic designed vacuum tube holder is much thicker & bigger than traditional one. What is more important, it is much easier for installation.



## Heat Pipe Description

- As the heat pipe has less heat capacity, it works very quick even under cloudy days and collect heat effectively.
- It can work normally even -37 degrees, as there is no water in the vacuum, it can effectively prevent low heat efficiency due to frost cracking or scaling!
- Each individual tube can work independently, and the whole system can still work if any one of them get damaged, the lifespan of our heat pipe is more than 15 years.



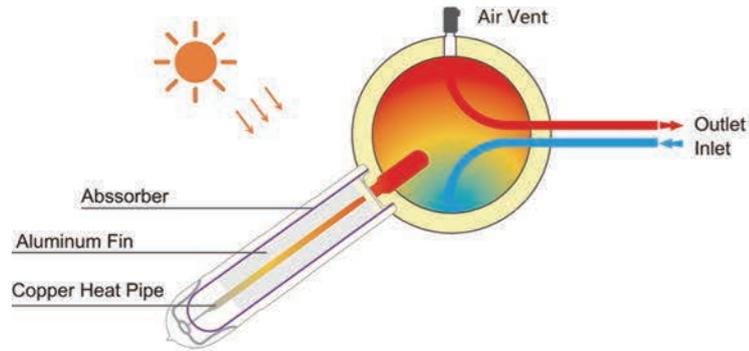
## Heat Pipe Solar Tubes Performance & Specification

Model	Ø14mm
Heat pipe material	Oxygen Free Copper (TU1) CU=Ag>99.99% (O <sub>2</sub> <16ppm)
Condenser Dimensions	Ø14mm*80mm, Body : Ø8mm
Heat-transfer-fins	0.3mm/0.0098" thick sets of aluminium fins, 1630mm
Starting Speed	30 Sec.
Stagnation Temperature	236°C





## How it works?



### Pressurized solar water heater working principle

- The heat pipe pressurized solar heater tank has no exhaust hole, therefore, it must bear the pressure come from tap water and hot water, when use, the hot water comes out because of water pressure.
- Vacuum tube absorbs solar energy, and conductive copper pipe transfers the heat into the pressurized solar water heater tank. In this case, the water inside the tank becomes hot.
- No water in the heat pipe makes the whole system can bear pressure.



## CORE ACCESSORIES

P/T Valve	Check Valve	Electric Heater Element (Screw Type) 1", 1 1/2", 1 1/4"
		
Magnesium Anode 1" or 3/4"	Controller 110V/220V, 50-60HZ	Air Vent
		

## Product installation

### Special warning :

1. Installing the water heater must be caution of on the high position what required of a professional installer operation, pay attention to their personal safety!
2. Transportation and instillation, gently especially for the fragile glass tubes
3. Before installation, please carefully read the installation instructions in strict accordance with the manual operation, and by the professional instillation. Otherwise the improperly installed may lead to serious personal injury and property damage, the instillation is divided into four parts: frame installation, tank installation and tubes installation and connection of the water heater piping.

### [ frame mounting ]

Solar water heater should be in the sunny square, use galvanized iron wire or expansion screws or cement and fixed the roof pad bracket under hard objects



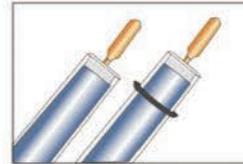


### [ Tank installation]

Put the tank on the tank support after the frame completed assembly. Place the four screw bolts on the tank into the tank support, but let the screws not to be turned tightly temporarily. Please pay attention to the direction of vacuum tube hole to be the same angle direction with the tube holder on the bottom track(manifold). Fix the tube holders on the bottom track then turn down its male part.



### [Tube installation]



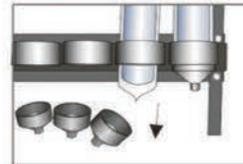
1. Dust ring with water jacket on the vacuum.



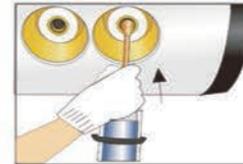
2. Removing the heat pipe header 20-30CM.



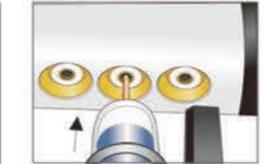
3. Evenly coated with thermal glue on the condenser.



4. Vacuum tube tail into the pipe supports from top to bottom.



5. holding the heat pipe forced into socket on the tank.



6. vacuum tube inserted into the tank according with the heat pipe.



7. turn the tube holder to be tightly (to keep vacuum tube could not be moved up and down)



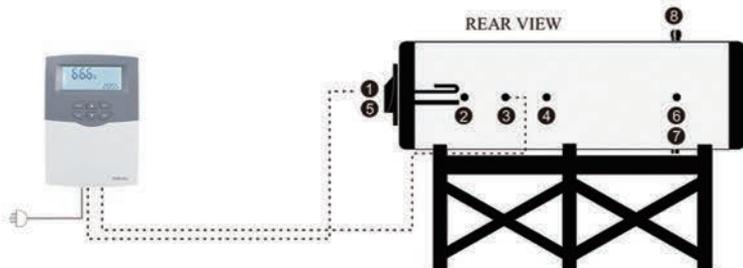
8. The tank angle is fine-tuning, and screw fastening on the tank bottom



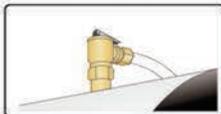
9. Slide the dust ring on the proper position

### [Pipeline connections]

Connect the water pipe line , try to use the special composite pipe or cross -linked pipe, to reduce the water rust and heat loss, piping using insulation materials the better is fixed on the stand or building, if in the cold areas, drain valve can be added, so the emptying of the water in the pipe line.



Serial No.	Description	Size
①	Electric Heater Element	1" or 1 1/4"
②	Hot Water Outlet	3/4"
③	Sensor Port	1/2"
④	P/T Valve Hole	3/4"
⑤	Magnesium Anode	3/4 or 1"
⑥	Cold Water Inlet	3/4"
⑦	Drain Port	1/2"
⑧	Air Vent Hole	1/2"



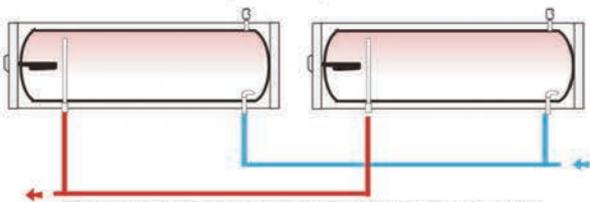
The T/P exhaust port stringent blockage. It should have received an additional exhaust pipe to prevent the tank internal pressure is too high splash hot water to cause damage to persons and property.



!!!ATTENTION PLEASE !!!



Check valve(non return pressure reducing valve) must WELL install on the **COLD WATER INLET HOLE ⑥** to avoid hot water back to cold water pipe line,if your city water supply is too strong ,please install pressure adjust valve!!!



Solar water heater can be connected more than in series, parallel way into the collective hot water system.

## Product Instruction

“PRO”: the new pressurized solar water heater, the cold water inlet connect with city water directly, Can withstand high pressure when it works.(Means if the cold water supply pressure in stable, when open the outlet valve will have hot water in time with same pressure;) Attention(importance):

### Attention (Importance):

1. During the storm with lightning, please DO NOT use solar water heater and keep the tank full of water during the typhoon/hurricane.;
  2. In the summer, if hot water not much used or water temperature is so high, please take some shade to cover part of vacuum tube to reduce the heating;
- This solar water heater can use all day for four seasons; the lifetime is more than 15years; During this period, you can take some simple maintenance service as follows:

#### 1.clean the vacuum tubes

If in lots of dust and dry area (North area), the vacuum tubes will have so much dirty on it, it will reduce the reflecting rate for long time. So you need to clean vacuum tubes at least half year of one year according to the dirt condition. You can use soap water or washing powder water to help clean vacuum tubes. In the rainy areas, it's no need to do this.

#### 2.clean the incrustation scale:

If the water temperature is too high, or water quality are not good in some areas, or use the water directly from ground that includes lots of impurity, all of these will cause lots of scale in the tank this will affect the efficiency of solar water heater. So you need to clean the tank exchange magnesium anode every one or two years. This you must ask professional workers to help do it.

## Warranty Ordinance

Thank you for using our company solar water heaters. Our company will take service at list for you which according to the rules by the Protection of Consumers' Rights and Interests: the products can be exchanged free if the products has manufacturing defects or quality issues within 7 days, warranty is 3/5/7 years for main machine, and 1 year for spare parts.

## Trouble Shooting

Trouble	Trouble Reasons	Solutions
Sunny day ,no hot water	The front of solar water heaters have occluder,high tower,trees,tall buildings,fences or other water heaters, short sunshine, causing the water temperature low.	Remove the occluder or move the solar water heaters to the place without occluder.
	1. Vacuum tube surface have thick dust. 2. Hot outlet valves got leakage or cannot closed well. 3. Vacuum tube or heat pipe damaged . 4. The P/T valve on the main water tank can not closed which cause the water keep flowing.	1. Cleaning the tube surface and reflector. 2. Check the valves. 3. Replace tube or heat pipe. 4. Check P/T valve.
No hot water come down during winter time.	1. Pipelines freeze in winter time( Cold area winter is not normal, sometimes to freeze in the morning, and defrost in afternoon ). 2. Weather is too cold	1. The whole pipeline use heat insulating material(such as EPDM pipe or rock wool...) 2. Use electric heating belt together with water pipe lines,outside with insulating material preservation.