

SAVE ELECTRICITY. SAVE MONEY. SAVE THE ENVIRONMENT

TATASOL - Solar Water Heating Collector

- Selectively coated, highly-efficient Copper-Copper Collectors
- Highly transmissive, toughened & tempered glass
- Designed, manufactured and certified as per "BIS" specifications
- Design registered with Patent Office (patent Reg. No. 175095)



VAJRA 200 LPD Solar Water Heating Collector

- Insulated Stainless Steel Tank
- Easy to install - minimum external piping
- Sacrificial Anode
- Tough, durable and efficient
- Available in capacities of 100, 200, 300 and 500 LPD



Also available Pressurised Systems.

SOLAR SPLASH - Solar Heating for Swimming Pools

- Highly efficient BIS approved Collectors
- Heat Exchanger specially designed for pool heating
- Optimum design for specific site
- Automatic control of pool temperature



Applications :

- Farmhouses
- Homes
- Hostels
- Hotels
- Resorts

The working of a Solar Thermal System

- Solar Thermal System harness the heat of the sun, which is a form of energy. Black copper pipes in the Collectors trap heat.

- When water passes through these pipes, the temperature of the water rises 60°C or more

- Pipes have selective coating that ensure high efficiency of heat conversion.



TATA BP SOLAR INDIA LIMITED

Channel Partner :



sethi.v@alpineenergies.com

sales@alpineenergies.com

Marketing Division:
157, Vardhman Grand Plaza, Managalam Place,
Sector-3, Rohini, Outer Ring Road, New
Delhi - 110085; Ph: +91 - 11 - 27943640

Regd. Sales Office :
1st Floor, Mahipal Singh Market,
Nr. Aggarwal Bikaneri Sweets,
Main Dadri Road, Atta, Sec. 27, Noida, U.P.

Just Dial 0-9212136611



**Plug into the power of the Sun
With Tata BP Solar**

VAJRA - International Water Heating Systems

- System capacity of 300 LPD
- Sleek and stylish, with an international look
- High-grade Stainless Steel tank with PUF Insulation and silver and black pre-coated fibre glass finish
- Built-in Heater for better heat retention
- Tank designed to withstand pressure of 20 kg/sq. cm.
- Tank equipped with Flushed Heater Caps, Anode and Air Release Valve
- Unique Tube Heat Exchanger with Anti-Freeze, allows the collectors to operate at high efficiency
- Selectively coated, Copper-Copper Collectors with Ultrasonic Welded Fins for better heat transfer



VAJRA - Industrial Water Heating Systems

- Available from 750 LPD to higher capacities
- Thermosyphon and Forced Circulation Systems
- Custom-made to suit specific applications
- Insulated Stainless Steel Tank
- Selectively coated, Copper-copper Collectors with Ultrasonic Welded Fins for better heat transfer
- Collectors have corrosion-resistant, extruded aluminium sections with Stainless Steel Fasteners
- HHC Systems also available on request



Applications :

Ideal for : Schools, Colleges, Hostels, Canteens, Hotels & Resorts, Apartments, Boiler Feed, Hospitals, Dairies, Various Industries like Automobile Industry, Chemicals & Fertilizers, Breweries, Pharmaceuticals, Textiles, Dairies, Electroplating & Galvanising industry, Military Barracks & Cononments

FRESH IDEAS IN

Solar Technology

SOLAR WATER HEATING SYSTEM – FREQUENTLY ASKED QUESTIONS

Q: What is a Solar Water Heating System?

A: A Solar Water Heating System is a device that heats water using Solar Energy. Like a geyser, the Solar Water Heating System too, gives you hot water at the turn of a tap. But while the geyser uses expensive electricity, a Solar Water Heating System utilizes energy that is free and available in abundance: Solar Energy!

Q: How does a Solar Water Heating System work?

A: Simple. The sun's rays fall on the Collectors, which 'collect' the rays and convert them into heat energy. The solar heat energy thus collected is used to heat the water passing through the pipes of the collector. The water is then stored in insulated Stainless Steel Tanks and from there, distributed through pipes to the required usage points.

Q: What are the advantages of using a Solar Water Heating System?

A: Solar Water Heating Systems, you will find, make great sense – both economically and ecologically. Powered as they are, by the Sun, Solar Water Heating Systems save you a significant amount on your electricity bills, month after month. In fact, these savings, over a period of time, pay for the one time investment of the Solar Water Heating System, after which the hot water comes to you absolutely FREE! You need have no worries about rising electricity tariffs unlike the owners of power-hungry geysers!

Not only is Solar Energy free, it is forever! Add to this the durability of a Solar Water Heating System from Alpine Energies and you have hassle-free hot water for years!

Solar energy is clean, non-polluting energy. So while you enjoy a hot water bath, you can enjoy the warmth of knowing that you are doing your bit to help make the world a better and healthier place for future generations.

Q: Will Solar Water Heating System work all through the year? What about cloudy days?

A: Solar Water Heating Systems work as long as the sun shines! In a country like India that is almost all through the year! To be more specific, a good Solar Water Heating System works for more than 300 days in a year! A Solar Water Heating System works even on partially cloudy days and during winter too. Solar Water Heating Systems from Alpine Energies come with electrical back up for just such eventualities!

Q: Is it difficult to install Solar Water Heating System?

A: Not at all. Solar Water Heating Systems offered by Alpine Energies are simple to install. In fact, they require minimum external piping.

Q: What about maintenance?

A: Solar Water Heating Systems from Alpine Energies hardly require any maintenance. There are no moving parts. All the components used are of the highest quality and every minute detail is taken care of, so that when you buy a Solar Water Heating System from Alpine Energies you enjoy peace-of-mind for years!

Q: How is the Solar Water Heating Systems from Alpine Energies better than other Solar Water Heating Systems?

A: Being a 100% Solar Company, Alpine Energies has focused its resources to design and develop Solar Water Heating Systems that can make optimum use of Solar Energy, whatever the season.

Quality is a prime concern at Alpine Energies. Carefully thought-out Quality Processes and extensive Quality Checks ensure that every Solar Water Heating System that goes out of our state-of-the-art manufacturing facility is the best of its kind. Yes, Solar Water Heating Systems offered by Alpine Energies give you full value for your money!

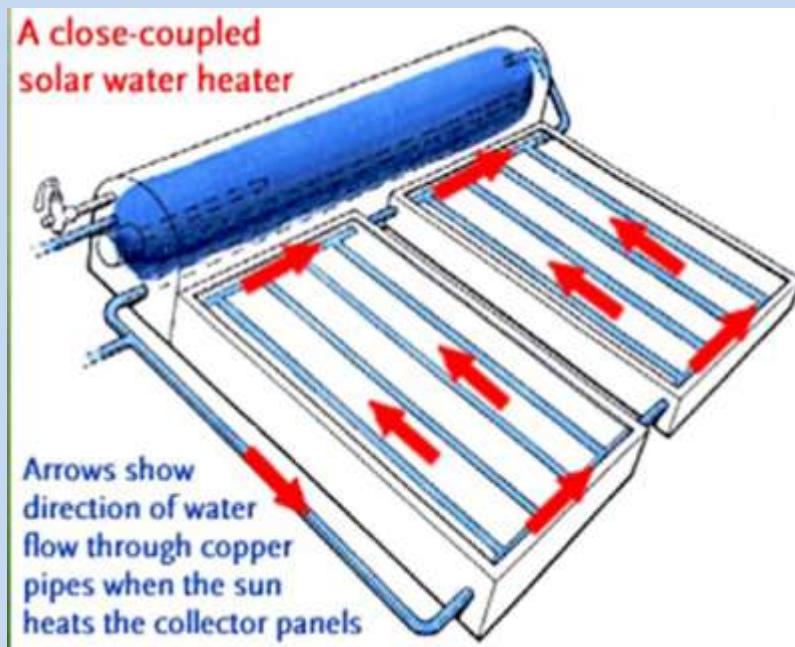
Q: What about after sales service?

A: A 100% Renewable Company, Alpine Energies has a wide Sales & Service Support Network.

SYSTEM DESCRIPTION

SOLAR WATER HEATING SYSTEM (SWHS)

Thermosyphon system



Solar radiation falling on the collector passes through the glass and is absorbed by the absorber consisting of fin, raisers and headers. A special selective coating on the absorber prevents escape of heat to the environment. Water inside the raisers and headers absorb the heat from the fins and raisers, and become less dense than the water contained inside the storage tank. It rises to the top of the hot water tank, simultaneously the cold water in the tank descends to the bottom header of the collector and gets heated in the absorber; and the cycle is repeated. After such number of cycles the entire water in storage tank becomes hot.

Definitions:

1. Non - Pressurized Model: Where the input water comes with a gravitational pressure with a cold water tank kept exactly a feet above the total height of the SWHS.
2. Pressurized Model: Where the input water comes with a specific pressure, esp. created by a Hydro-pneumatic pumps or where the difference in the bottom level of over head tank supplying cold water to the SWHS & the top level of solar tank of the SWHS is more than 1mtr.
3. Thermosyphon Type: A process where the water flows to upper portion of the vessel automatically, without any external force when it becomes less dense.
4. Closed loop / Indirect: Heating SWHS A heat Exchanger is provided within the SWHS so that in freezing temperatures, areas, the copper tubes do not burst and the SWHS performs as effectively, as in normal weather. This specific solution is provided either in freezing temperature areas which works with an anti - freezing agent inside the primary circuit (heat exchanger) or it is also used in warm regions, where the TDS of the water is more than 300ppm. Please ask for this model specifically, if required.
5. Forced Circulation: Where solar tank need not be above the solar collectors and the water circulates within the Primary Circuit by force only. This is normally used in Industrial solutions, that too of higher capacities due to load requirements.
6. Sacrificial Anode: A magnesium rod which sacrifices itself against chlorides, fluorides, and other salts like magnesium, etc available in the water. This helps increasing the shelf life of the solar tank, which is made up of Stainless Steel 304grade.
7. Electrical Back - up: Electrical rods are available inside the solar tank which helps as a backup support in No-sunshine days or over usage time.

Hot Water Circulating / Re-circulatory Systems

- What Are They and How Do They Work?

Traditional hot water circulating systems use a hot water circulating pump to pump hot water from the water heater, through the hot water piping, and on back to the water heater through an additional length of pipe that runs from the furthest fixture back to the water heater. This provides you with instant hot water.

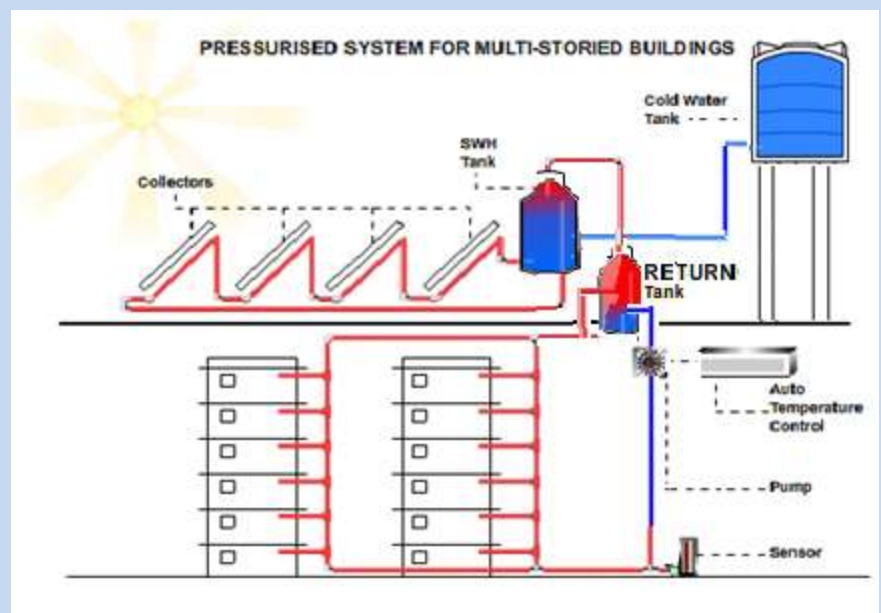
Circulating systems can waste lots of energy

This type of hot water circulating system provides *nearly* instant hot water at the fixtures, but wastes a tremendous amount of energy through both the energy required to operate the hot water pump and even more heat energy lost from the piping.

Timer and temperature controlled circulating systems

Several methods have been employed to reduce the energy waste associated with hot water pump circulating systems:

1. Timers are sometimes placed on the circulating pump so the system shuts the hot water pump off during hours that one normally uses hot water such as from midnight to 6:00 a. m.
2. Another type is where the circulating pump is controlled by a temperature sensing circuit that shuts the hot water pump off once the water temperature reaches a pre-set temperature such as 50 degrees and then starts the pump back up when the water temperature in the pipe drops below a second set point such as 40degrees.



This type of system does quite a lot to reduce the energy losses because the circulation pump turns on only when the temperature is not achieved at the point where sensor is placed. Although, lower set temperature point is still pretty high enough to cause large heat losses from the system, but this is the best available in this series.