

# TS System

ENVIROSUN® Thermosiphon System





# TS

## THERMOSIPHON SYSTEMS

### Features of the TS system

1. Tank and collectors roof-mounted as a single, integrated unit.
2. Maximum solar efficiency with no power input.
3. Technologically-advanced safety and control systems.
4. Closed circuit for maximum solar collector freeze and fouling protection (THX only) with 10 year tank and Collector Warranty\*
5. Superior durability, reliability and cost-effectiveness.



### AS NATURAL AS GRAVITY

Thermosiphon flow is a natural process that drives the weather, currents in the ocean and water heated in a pot. It occurs as a result of the density difference between warm and cool water – warm-water, because it is less dense, naturally rises and displaces denser cool-water.

The same process drives our TS and THX solar water heaters. The storage tank sits on the roof immediately above and nestled against the solar collectors. This reduces the amount of pipework between the tanks and collectors and keeps heat loss down. It also means that as fluid is heated in the solar collectors, it can naturally rise up to the cooler storage tank.

Provided the fluid in the collectors is hotter than the base of the storage tank, circulation continues. As the collector temperature approaches that of the tank, circulation stops - automatically. The whole process occurs without the need for any external power to operate pumps or valves – and the flow is naturally optimised.

With our TS systems, hot water from the collectors flows to the middle of the storage tank, and displaces cooler water lying in the bottom of the tank. This in turn flows down into the collectors to be heated.

For our THX system, the hot collector fluid enters the jacket chamber around the storage tank, transfers its heat to the water within the tank and returns to the solar collectors for reheating.

# TS AND THX – SOLAR WATER HEATERS



## STEEL THAT'S STAINLESS

At the heart of our heaters is the DEJONG tank – a high-pressure cylinder manufactured in Holland specifically for us. DEJONG is one of Europe's leading, independent producers of stainless hot water tanks.

It has a history that tracks back some 40 years and each year it makes more than 120,000 tanks.

DEJONG understands that not every grade of stainless steel is suited to hot water applications and knows that the total manufacturing process is an important element in preserving the corrosion-resistance of the material.

That's why our DEJONG tanks are made exclusively from grade 444 stainless steel and are 'pickled and passivated' after fabrication – a process that ensures our tanks give the longest possible serviceable life.

## A GREENHOUSE EFFECT

Solar collectors are like small greenhouses. The short wavelength rays of the sun pass through the high-transmittance glass covers to heat the absorber plate. Any re-emitted heat is in the form of long wavelength radiation which is reflected back into the collector tray by the glass. This clever application of the greenhouse effect is part of working with nature, not against it.

## SIMPLY AND RELIABLY THE BEST

Our TS and THX solar water heaters are amongst the most advanced hot water systems available. They're simple, efficient and durable for the lowest long-run cost.

The hot water storage tank and the solar collectors are roof-mounted as a single integrated unit. Water is heated in the collectors and rises naturally through the system and up to the insulated storage tank.

This passive, thermosiphon process negates the need for externally-powered pumps to move hot water from the collectors to the tank - it automatically matches the flow rate to solar radiation. The proximity of the collectors to the tank also helps by keeping transport heat losses to a minimum. The overall result is zero parasitic power losses, maximum solar collection efficiency and negligible system heat loss for the greatest possible energy savings.

And because the design is self-regulating with fewer moving parts or controls, it keeps doing this day-after-day, year-after-year.



## SELECTING THE BEST ABSORBER

Our Premium Selective Surface solar collectors are made to order and made to last. Within a weather-resistant aluminium tray, over thermal insulation and protected by low-iron, tempered solar glass cover, sits our peak performing solar absorber. Made from a one piece monolith Sputtered treated aluminium absorber panel laser welded to the copper riser and headers for optimum conductivity and solar fusion from the sun to the water. The absorber panel is coated with latest Blue Sputtered selective surface treatment to ensure optimum solar absorption and to reduce remittance of solar radiation.

Our bespoke collectors gather extra energy while withstanding almost everything that's thrown at them. With multiple product designs and configurations to ensure we maximise the solar collection even in the coldest and wettest locations.

## ENVIROSUN® EXTENDED PRODUCT WARRANTY



Component	Up to 1 year from date of installation	From 1 to 5 years from date of installation	From 5 to 7 years from date of installation	From 7 to 10 years from date of installation
	Parts & Labour	Parts & Labour	Parts Only	Parts Only
<b>TS Plus Open Circuit System</b>				
Tank	✓	✓	✓	✓
Collector	✓	✓	✓	✗
Electrical parts, valves & plumbing accessories	✓	✗	✗	✗
<b>THX Plus Closed Circuit System</b>				
Tank	✓	✓	✓	✓
Collector	✓	✓	✓	✓
Expansion vessel	✓	✗	✗	✗
Electrical parts, valves & plumbing accessories	✓	✗	✗	✗



### A JACKET AGAINST THE COLD

For areas that are likely to experience near-freezing temperatures, we recommend our THX indirect systems. With the fluid in the solar collectors connected to a jacket chamber that is separate from the storage tank, a freeze-free closed-circuit is formed. Our THX systems are also very well-suited to use with poor quality water supplies.

Visit [www.envirosun.solar](http://www.envirosun.solar) to determine if the location where you intend to install your EnviroSun solar water heater is subject to near-freezing temperatures or poor water quality.

### A SYSTEM THAT TIES IT ALL TOGETHER

Our tanks and collectors are only part of the story. A modern solar system comprises a sophisticated blend of technologies - from control valves and thermostats to auxiliary boosters and special-purpose fixings. As you'd expect, our approach is to select the very best components and sub-systems to match to our DEJONG tanks and Selective Surface solar collectors.

**Envirosun TS and THX solar hot water system save more money with greater reliability and for a longer period of time.**

## COMPLIANCE AND STC CREDITS

Envirosun is fully compliant to all relevant industry standards, and independently accredited by the Australian Government Clean Energy Regulator (CER). EnviroSun solar hot water systems appear on the CER Register and create Renewable Energy Certificates, which form the basis for determining Small-scale Technology Certificates (STCs). These credits are available as financial support to purchasers – the greater the number of STCs, the greater the level of support.

#### EXPLANATION:

The Australian Government Clean Energy Regulator publishes a Register of solar water heaters for which Small-scale Technology Certificates (STCs) may be created under the provisions of the Renewable Energy (Electricity) Act 2000.

The number of STCs a particular water heater is entitled to create will depend on its installation date and geographic location. The Regulator has determined four zones for solar water heaters with each zone based on climate and solar radiation levels. Each zone has been defined on geographic location.

The number of STCs depends on the installation date and geographic location of the solar hot water heater. The map here shows the geographic location for each zone. The CER also provides the list of postcodes that lie in each zone.

For eligible solar hot water and air source heat pumps, financial incentives are provided over a 10-year deeming period. From 2022, the deeming period reduces by one year every year until the scheme ends in 2030. So please check with your local EnviroSun dealer to ensure how many STC your EnviroSun system is eligible for.

