Eurosun TS Owner & Installation Manual

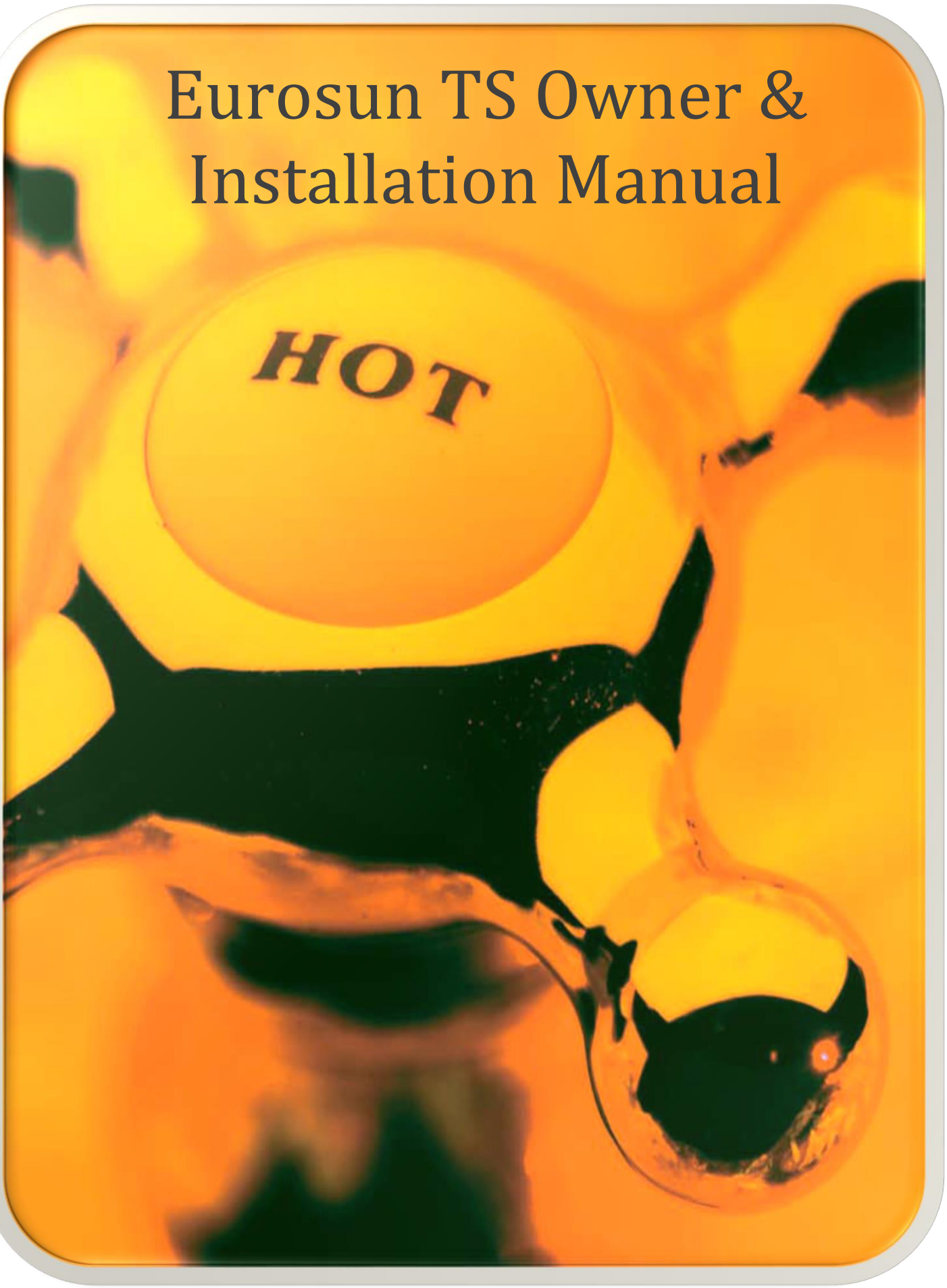


Table of Contents

1 CUSTOMER INFORMATION

1.1 Installing your new Eurosun TS System

This manual provides you with the essential information needed to install and operate the Eurosun Thermosiphon System correctly. Please read it carefully and follow all the instructions.

1.1.1 Storage Tank & Solar Collectors

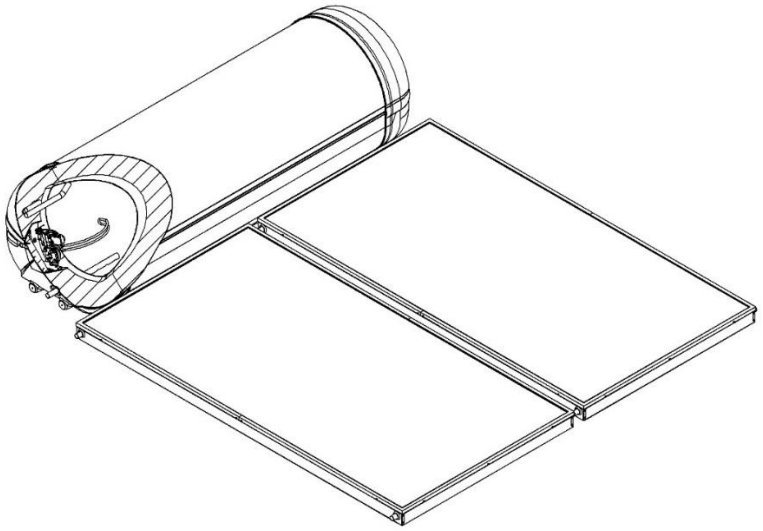


Figure 1-1 Typical System Layout (Cut-away)

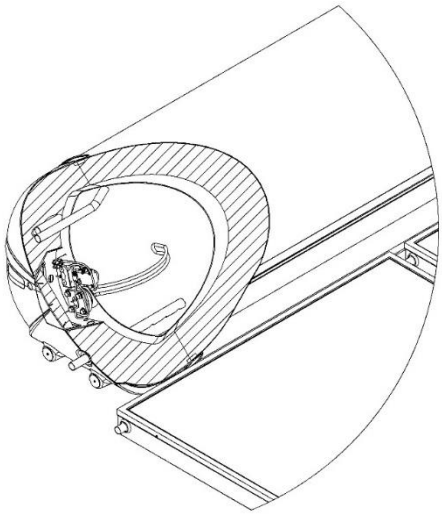


Figure 1-2 System Layout Detail (Cut-away)

The tank stores the heated water ready for household use. TS Plus tanks are 444 grade stainless steel, the TS model is constructed with vitreous enamel lined mild steel to provide long life. The tank is insulated with high density polyurethane foam insulation to ensure minimal heat loss and maximum structural strength.

Eurosun solar collectors contain copper waterways bonded to a solar absorber plate. The collectors absorb solar energy and transfer it to the fluid. The absorber is enclosed in an aluminium casing, covered with high strength toughened low iron glass.

1.1.2 Ancillary Energy Support (AES) Booster System

The Electric Ancillary Energy Support (AES) may be either electric or gas boosting. AES systems use an electric element to heat part of the stored water when there is reduced solar energy available e.g. cloudy days. Electric AES are automatically controlled by an internal thermostat allowing the electric element to operate only if the stored water temperature falls below 60°C. At 60°C the thermostat will turn the AES off.

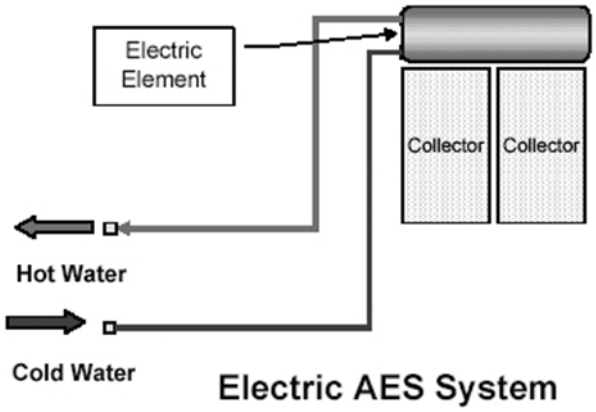


Figure 1-3 Electric AES System Schematic

1.1.3 Potable Water Use Only: Not Suitable for Pool Heating

Eurosun TS Systems are designed for domestic and commercial potable hot water use. They are not suitable for heating pool water or other chemically treated water.

1.2 Cold climate installations.

If you are in a frost prone or freeze area you must install a closed circuit system. The open circuit system is not suitable for frost prone or freeze areas. Only closed circuit models are warranted against freezing.

If the unit is to be fitted in areas prone to frost and freezing the unit must be installed in accordance with any relevant sustainability programme (such as the Sustainability Victoria program). Closed circuit tanks must be installed and charged in accordance with Eurosun requirements. Transfer fluid used must be warranted against frost and freezing.

Only closed circuit systems are warranted in the event of damage caused by frost or freezing. Closed circuit systems must be installed in accordance with this manual and properly commissioned to be covered by warranty.

1.3 Important safety information

Water heaters have the ability to produce hot water very quickly. To reduce the risk of scald injury it is a requirement that a temperature control valve be fitted to the hot water supply pipe work. This valve should be checked every 6 months to ensure its operation and settings remain correct.

Check that the pressure & temperature relief valve drain pipe is not located where it can cause damage if hot water is discharged.

This water heater is not intended for use by young children, infirm persons, or persons lacking relevant skill or experience, without suitable supervision.

Children should be supervised to ensure they do not play with hot water taps or the water heater.

If the hot water system is not used for two weeks or more, a quantity of hydrogen gas, which is highly flammable, may accumulate in the water heater. To dissipate this gas safely, it is recommended that a hot tap be turned on for several minutes at a sink, basin or bath but not a dishwasher, clothes washer, or other appliance. During this procedure there must be no smoking, open flame or any other electrical appliance operating nearby. If hydrogen is discharged through the tap, it will probably make an unusual noise like air escaping. Do not place hands or any part of your body beneath the tap during this procedure.

- This procedure is not applicable to the TS Plus systems.

1.4 Water discharge through the pressure valve

All Eurosun solar water heaters have two pressure valves located within the system configuration. The cold water expansion control valve (ECV), located in the cold water supply pipe, may release a small amount of water from time to time during the heating cycle of the system. The water discharge is water expanding due to the heating process. Normally the discharge will be less than 10 litres per day but can be more depending on the water usage and the temperature rise. The pressure & temperature valve, located on the storage tank, may also release a small expansion discharge.

2 TROUBLESHOOTING

If there is not enough hot water we recommend that the following points are considered as part of the service call.

2.1 Low solar energy input

If there have been prolonged periods of cloud or winter is approaching it is necessary to increase the boosting time for time-clock controlled systems or to turn on the booster for systems with a booster isolation switch.

2.2 Solar collector shading

Often trees or other buildings can shade the solar collectors or there can be a dirt build-up on the glass cover. Trees should be cut back if possible or the system relocated if removal of the shading is not possible in the present location. If the glass is dirty this should be cleaned by a qualified person with standard domestic glass cleaner. If rainwater collection occurs from the same roof on which the solar water heater is located, do not use chemical cleaning agents to clean the collectors. Any spillage of these onto the roof could cause contamination of water in the rainwater tank.

2.3 AES (Booster) system not operating

For electric AES the fuse or circuit breaker supplying the AES should be checked. If the time clock (where fitted) and the fuse or circuit breaker are operational and the water is cold, you can turn the booster isolator on and off to see if the electricity meter speed changes. If there is no change in speed, it indicates there may be a booster problem. Contact your authorised Eurosun dealer or installation service provider as soon as possible.

2.4 Excessive water discharge from the valves

All Eurosun solar water heaters have two pressure valves located within the system configuration. The cold water expansion control valve (ECV), located in the cold water supply pipe, may release a small amount of water from time to time during the heating cycle of the system. Normally the discharge will be less than 10 litres per day but can be more depending on the water usage and the temperature rise. The pressure & temperature valve, located on the storage tank, may also release a small expansion discharge.

2.5 Hot water use higher than anticipated

Often the hot water usage of showers, washing machines and dishwashers is underestimated by the customer. Review these appliances to determine if the daily use is greater than the storage volume of the water heater. Eurosun TS system tanks contain 300 litres of hot water, if the hot water load is greater than 300 litres within a short period of time, there may be periods where the water temperature is slightly lower than normal. It is also advisable to inspect hot water tap washers etc. for leakage and replace if necessary.

2.6 TA Valve operation

The solar hot water system has a thermosiphon arrestor valve (TAV) installed. This valve prevents the water in the tank from overheating. It does this by stopping the thermosiphon action from moving the hot water in the collectors to the storage tank.

As a consequence of the operation of the TAV the water in the collectors can become superheated. When this occurs, opening a tap may generate some noise. This is not a

problem as the system is designed to handle these conditions. The noise will stop after the tap is closed or enough hot water is used to open the TAV. This should not occur after dark.

The closing of the TAV indicates that the solar hot water system is generating more hot water than is required.

3 SYSTEM MAINTENANCE

Eurosun solar water heaters are designed so that there is little to do in the way of system maintenance.

Personally inspecting or servicing any part of the system is not recommended.

Should you decide that you want to inspect the roof mounted system it is essential that you use all safety devices required to ensure your personal safety. Most importantly the electricity supply must be turned OFF.

3.1 Draining and flushing the system

The system must be completely drained of water before commencing any plumbing work. This will prevent damage to the storage tank in the event of a vacuum or excessive pressure forming at the storage tank.

The Eurosun TS hot water system should be drained and flushed every five years during a major service of the unit.

1. Turn off and isolate the power supply to the electrical element.
2. Turn off the water supply to the water heater.
3. Cover the collectors.
4. Release excess pressure from the tank by manually opening the pressure & temperature relief valve.
5. Disconnect the cold water supply pipe connection to the tank.
6. Fit a ½" flexible drain pipe to the cold connection at the tank. Place the open end of the drain hose in a location where it is safe for the hot water to drain away from the tank.
7. Manually open the pressure & temperature relief valve which will allow air into the tank and the water within the tank will flow out via the flexible drain pipe fitted to the cold inlet connection. Hold the valve open until the tank is empty.
8. For open circuit systems drain the collectors. Disconnect the cold pipe from the bottom left of the collector array.

3.2 Collector glass cleaning

Glass cleaning usually occurs by natural rainfall; however, if the installation is in an industrial (or similar) area with high levels of airborne particles then a qualified person can clean the collector glass with normal window cleaning chemicals and equipment. If rainwater collection occurs from the same roof on which the solar water heater is located, do not use chemical cleaning agents to clean the collectors. Any spillage of these onto the roof could cause contamination of water in the rainwater tank.

3.3 Hail damage or broken collector glass

In the unusual case that the toughened glass collector covers are broken, Eurosun does not advise replacement of the glass. The entire panel should be replaced to maintain the

performance and integrity of the water heater. Replacement panels should be installed by a qualified person.

3.4 Relief valves

The lever on the relief valves should be operated at least every six months. Failure to do so may result in failure of the tank. If water does not discharge freely from the valves they should be checked and possibly replaced. The relief valves and relief valve drain lines must not be blocked. Some water may discharge during each heating cycle.

Every five year's all safety valves should be replaced to ensure continued life and safe operation of the system. In locations where the potable water has a Total Dissolved Solids (TDS) of greater than 600 ppm replacement of all safety valves at 3 year intervals is recommended.

3.5 Anode

TS Vitreous enamel tanks have a sacrificial anode. The anode must be replaced every 5 years to ensure longevity. In areas of high TDS, or hard water supply the anode must be checked every two years.

Note: the TS Plus systems do not require an anode.

4 IMPORTANT INSTALLATION INFORMATION

4.1 Local Standards

The following standards and regulations must be taken into account when planning the installation of the Eurosun TS solar water heater.

- AS/NZS 3500.4.2 National plumbing and drainage code hot water supply systems – acceptable solutions.
- HB 263-2004 heated water systems plumbing industry commission.
- AS/NZS 3000 Electrical installations (known as the Australian/New Zealand wiring rules).
- Any local regulations that govern this type of installation.

Where these instructions and any local regulations are in conflict, the local regulations shall prevail.

4.2 Safety

Do not commence any aspect of this installation until you have satisfied yourself that all safety issues have been addressed.

This installation should only be performed by an approved professional with suitable experience and licenses, authorised by Eurosun to conduct the work.

It is imperative that installers adhere to Occupational Health and Safety Guidelines at all times. The installer is responsible for their safety and the safety of those around them.

4.3 Water Quality

Water supply from an unfiltered water source that is highly conductive or has a high mineral content may void the system warranty.

To ensure water quality guidelines are met, the following characteristics should not be exceeded.

Water Properties	Acceptable Levels
Total hardness	200 mg/litre or ppm
Total Dissolved Solids (TDS)	600 mg/litre or ppm
Chloride	250 mg/litre or ppm
Magnesium	10 mg/litre or ppm
Sodium	150 mg/litre or ppm
pH	Min 6.5 to Max 8.5
Electrical conductivity	850 µS/cm

Table 4.1 Water quality requirements

In areas of poor water quality, it is recommended that a softener, conditioner or similar device be fitted to the water supply.

A breach of this condition may void the warranty in the event of damage caused by water quality exceeding these characteristics.

4.4 Pressure Reducing Valve

Where the mains water supply pressure is likely to exceed 550 kPa at any time, a 500kPa pressure reducing valve that complies with AS1357 must be fitted to the inlet of the hot water system.

A breach of this requirement may void the warranty in the event of damage caused by excessive pressure.

High wind or cyclonic areas

The standard mounting system is designed for standard roof installations of either metal or tile construction. It may be necessary to use the cyclone mounting system if one of the following applies:

- The collector must be installed between 1m and 0.5m (minimum) from the roof edge or peak.
- The installation has minimal shielding from surrounding buildings and trees, or is located on a hill or similar locations that may cause high wind effects (refer to Terrain Categories, Topographic Effects & Shielding Factors in AS 1170.2: 2002, or consult a structural engineer).
- The installation is on a roof with a pitch greater than 30°.

If the solar water heater is installed in an area classed as Cyclone Region C or D according to AS 1170.2: 2002, the standard mounting systems must not be used.

Please consult a structural engineer for advice on ensuring the installation will comply with local building codes and regulations.

4.6 Piping material

Eurosun recommends the use of copper pipe, certified to AS1432, in the flow and return lines to the solar water system.

Plastic piping is not to be used for any portion of the water heater system plumbing unless the pipe manufacturer has rated it for temperatures up to 99°C at 600kPa, or a tempering valve installed to ensure the water does not exceed the pipe temperature and pressure ratings. A minimum pipe run of 4m in copper is required between the water heater and any plastic piping.

4.7 Insulation

Hot and cold lines to the storage tank must be insulated according to the requirements of AS/NZS 3500.4. Insulation material should be of a closed cell type and have a minimum R value of 0.36 and thickness of 10mm. Thicker insulation may be required in certain locations. Insulation should be suitable for solar working temperatures. Insulation installed externally must be weatherproof and UV resistant.

4.8 Vacuum break

For installations on a house of 3 storeys or above, a vacuum break must be installed at the highest point of the hot outlet line. This will prevent damage to the storage tank in the event of an unexpected loss of water supply pressure causing system drain down and the formation of a partial vacuum.

4.9 Supplementary heat sources

If a supplementary heat source is connected to the storage tank, the maximum energy input cannot be more than 10 kW, including the electrical element. Where greater input is required a pressure and temperature relief valve with a higher kW rating must be fitted to the storage tank.

Where stove coils are used for supplementary heating the water must be connected in an open vented manner. Refer to Australian Standard AS3500 for more details on acceptable connection solutions.

Any supplementary heat source must be limited such that the maximum tank temperature is 80 °C.

4.10 Legionella requirements

Australian Standards require that a water heater system provide a means to inhibit the growth of the Legionella bacteria in potable water.

Systems installed with an approved Gas AES, with the outlet temperature set to 70°C, satisfy this requirement.

Systems with an Electric AES, must meet one of the following requirements:

1. Minimum of 45% of the storage volume heated to 60°C daily. This can be achieved by leaving the AES permanently on.
2. Minimum of 90% of the storage volume heated to 60°C for 32 minutes in each 7 day period. This requires a timing device.

4.11 Roof location selection

4.11.1 Collector orientation

For optimum performance select a roof surface oriented less than 45° away from the equator (in the southern hemisphere the equator is north and in the northern hemisphere it is south). Installations orientated up to 45° away from the equator do not have a major effect on the annual solar output. If the location has an east facing bias the best solar input is achieved in the morning, if the location is a west facing bias the best solar input is in the afternoon.

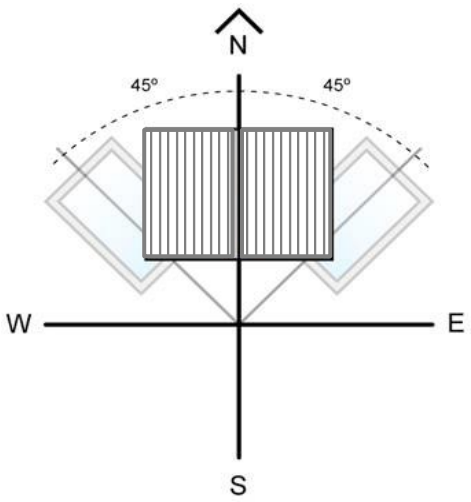


Figure 4-1 Collector orientation

4.11.2 Shading

Inspect the site carefully to ensure the selected location is not subject to shading from adjacent trees or buildings throughout the day, particularly between 9am and 3pm. Shadows are longer in winter than in summer so a site that is free of shadows from adjacent objects in summer may have some shadows in winter.

4.11.3 Storage tank location

locate the water heater as close as possible to the largest hot water demand e.g. the bathroom or kitchen. This reduces energy loss through the pipe work.

4.11.4 Collector inclination

Check that the roof pitch is greater than 10° and less than 30°. Installations on a pitch greater than 30° will require additional support at the storage tank to prevent it moving downward. Where the pitch is less than 10° the system will require a mounting frame to increase the pitch. Installations below 10° do not thermosiphon effectively and the collector glass will not self-clean during rainy periods.

4.11.5 Roof structure

Eurosun TS hot water system can be installed on metal or tile roofs.

Ensure the roofing material and roof structure are capable of supporting the full load of the storage tank, collectors and trades personnel during installation. The structure should be capable of supporting a 250kg point load. If this is not the case, additional bracing must be installed before proceeding with the installation.

4.11.6 Roof area

The system should be located 1m from all roof edges and peaks. A minimum distance is 0.5m is required around the system to ensure adequate working access.

Sufficient distance must be allowed up the roof from the storage tank for securing the mounting straps.

5 DIMENSIONS AND TECHNICAL DATA

5.1 System Overall Dimensions

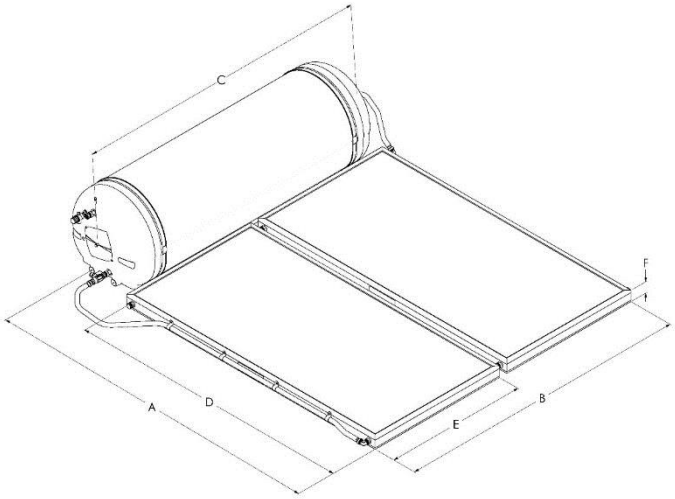


Figure 5-1 300L System overall dimensions

Model Number	Dimensions (mm)					
	A	B	C	D	E	F
EU300/40/E24/E20BC	2600	2238	2010	2000	1000	82
EU300/50/E24/E25BC	2600	2645	2010	2000	1235	82

Table 5.1 System dimensions

5.2 System Weights

Tank	Material	Weight – Empty (kg)	Weight – Full (kg)
EU300/O/S2	444 Stainless Steel	59	359

Table 5.2 TS Tank Weights

Collector	Weight – Empty (kg)	Weight – Full (kg)
E20BC	35.0	36.7
E25BC	42.8	44.8

Table 5.3 Collector Weights

6 INSTALLATION INSTRUCTIONS

Before starting the installation, please check carefully to ensure all items are accounted for.

Before commencing the installation of the solar water heater system ensure you have familiarised yourself with the requirements of Section 4 Important Installation Information.

Carefully remove all packaging and protective coatings and dispose of them in an appropriate manner. This includes the plastic core-strip from the back of the collector when mounted on a pitch frame, the plugs from the collector and storage tank connection pipes.

6.1 Flat roof installations

For flat roof installations a special mounting frame is required. Once the frame is assembled follow the instructions as outlined below.

6.2 Determining the mounting location

1. The starting point for the installation is the storage tank front foot. Locate the tank centrally over at least two (2) rafters/trusses, with the front directly over a tile batten or purlin. The batten or purlin selected must be located at least 2.4 metres up from the roof's lower edge and 1 metre down from the roof's ridge line.
2. From the selected batten/purlin, measure 2000mm down the roof slope. This position will be the bottom edge of the collector mounting rail.

6.3 Collector Preparation

3. For two panel systems select the collector that will be on the left when viewed from the ground.
4. Thread each of the stainless steel cable ties through a stainless side clip. Figure 6-1.
5. Stand the collector on its side, while packaged. Arrange the assembled clips along the long edge of the collector. Place two clips 300mm from the packaging at each end and one central along the long edge.
6. Ensure that the top of the clip is under the collector trim, and that the screw hole aligns with the groove in the side of the collector.
7. Fasten the clips with the screws provided. Figure 6-2

Figure 6-1 Zip Tie, Screw & Clip

Figure 6-2 Assembled clip

6.4 Installing the system

8. Take care with all pipe compression connections to prevent twisting of pipes.
9. Place one end of the collector mounting rail at the location marked in point 2 above. Lay the rail horizontally across the roof, centrally over the rafters/trusses.
10. Locate two roof trusses under the collector mounting rail (as near as possible to the outer edges of the rail). Slide two collector straps onto the collector mounting rail where the trusses pass under the mounting rail.
11. Adjust the mounting rail so that it is horizontal across the roof then raise it 5 – 10 mm on the right side.

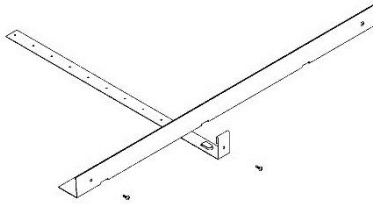


Figure 6-3 Collector Rail Mounting

12. Screw fix the collector straps to the roof trusses using the pre-punched holes in the collector straps.
13. Place the first collector on the collector mounting rail. Ensure the clips from step 6.3 are on the left of the collector when viewed from the ground.
14. **Single Collector System: skip to step 18:**
    Two collector System:
    Loosely fit the two collector connectors to the two copper tube spigots on the right side of the collector array.
15. Place the second collector onto the collector mounting rail. Figure 6.4.
16. Slide the second collector towards the first collector until the two copper tube spigots slide fully home into the collector connectors.
17. Tighten the compression nuts of the collector connector fittings. Use correctly sized spanners, hold the fitting centre whilst tightening the compression nuts.
18. Ensure that the collectors are centred on the mounting rail.
19. Fix the collector rail to the collectors with two (2) of the supplied self-drilling screws per collector. Figure 6-5.
20. Fix the collector straps to the collector rail and collector/s with two (2) of the supplied self-drilling screws.
21. Slide a Compression Plug assembly (Figure 6-6) onto the top left and bottom right connections of the collector array. Tighten the assemblies.
22. Place the tank centrally above the collector array, at the position identified in point 1 above. Move the tank so that it touches the top of the collector array.
23. Using the tank straps supplied, place one at each end of the tank. Hook the straps onto the front foot of the steel section of the tank. Slide them along the tank so they are positioned above the rafters/trusses.
24. Bolt the two (2) tank clamps to the tank strap behind the tank. Screw fix the tank clamps to the tank using the two (2) self-drilling screws provided (Figure 6-7-).
25. Screw-fix the tank straps to the rafters.
26. Fit the flexible hot connection pipe. This procedure will differ between models, refer to the appropriate picture:
    Open System

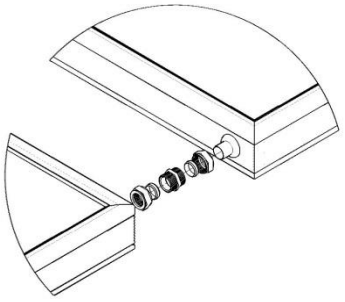


Figure 6-4 Collector Connectors

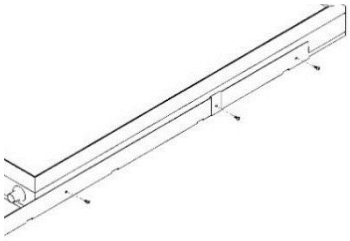


Figure 6-5 Collector Mounting

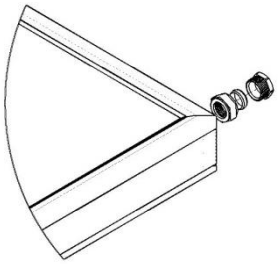


Figure 6-6 Compression Plug

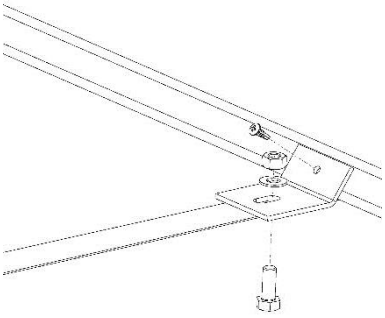


Figure 6-7- Tank Clamp

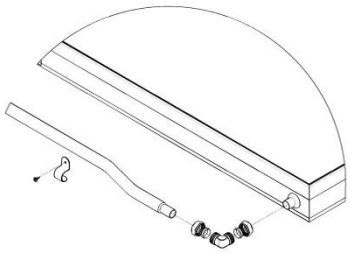
Figure 6-8 Hot Pipe - TS300 Open Circuit

27. Slide the appropriate compression unions/elbows onto the tank and collector pipes. Tighten the assembly. Insert one end of the flexible connection pipe to the collector union/elbow, gently bend the pipe and insert to the tank union. Tighten the connection assemblies.
28. Fit the cold connection pipe

    Open System

    Figure 6-10. Slide the compression elbow onto the bottom left corner of the collector array. Tighten the assembly.
29. Insert one end of the flexible connection pipe to the elbow. Tighten the assembly onto the flexible connection pipe.
30. Run the flexible connection pipe along the length of the collector. Once the tank is filled and under pressure, use the zip ties from step 6.3 to secure the pipe along the collector. Start at the bottom and ensure the flexible connection pipe is tight against the collector before fastening each zip tie.
31. Slide an Rp ¾" compression union onto the hot outlet of the tank. Tighten the assembly.

    Insert the P&T valve supplied with the Parts Kit into the valve port in the tank.



32. Cold Water Inlet Connection
Open System
Figure 6-12. The Thermal Arrestor Valve (TAV) will make up the inlet connection fitting. Attach an Rp ¾" compression union to both ends of the TAV and then slide onto the cold inlet of the tank. Make sure the arrow on the TAV is pointing away from the tank. Tighten the assembly.
33. Collector Cold Pipe Connection
Open Circuit
Gently bend the flexible cold connection pipe and insert it into the TAV. Tighten the assembly.

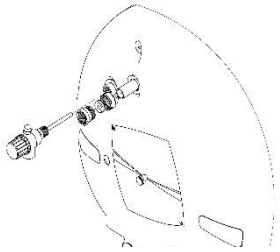


Figure 6-12 Tank End - Open Circuit

Plumbing Connections

6.4.1 Cold water connection

A check valve and a stop cock must be fitted to the cold water supply pipe work.

1. The cold water connection is made at the blue disc. Connect the cold water supply to the end of the ¾" BSP female thread of the Tee piece in the cold pipe assembly (Detail A).
2. Where the water supply pressure is likely to exceed 550 kPa at any time, a 500 kPa pressure reducing valve (PRV) must be fitted to limit the supply pressure. The PRV is supplied with the Parts Kit.

Warning

A breach of this requirement may void the warranty in the event of damage caused by excessive pressure.

6.4.2 Cold water expansion relief valve

Fit the 600 kPa pressure relief valve, supplied in the Parts Box, in the cold water supply pipe after the check valve, stop cock and (if required) pressure limiting valve.

6.4.3 Hot water connection

Use the ¾" BSP x 22mm fitting, supplied in the Parts Kit, to connect the hot water supply to the storage tank outlet connection marked with a red disc.

6.4.4 Pressure & temperature relief valve (P&T valve)

Run the P&T valve discharge line to a safe location Never discharge onto a solid surface like concrete as it can discharge very hot water.

Caution

1. Fit the 700 kPa/99°C (10 kW) pressure & temperature relief valve supplied in the parts box into the ½" brass tank socket, marked with the brown disc, near the hot outlet tube as shown in.
2. Ensure that the drain line from the pressure and temperature relief has a continuous downslope and falls away from the valve, towards the ground level to a safe location, terminating above the ground level. Ensure that the drain is installed in a place where it cannot be affected by freezing conditions (per AS3500).

6.5 Electrical connection for Electric AES (Booster)

Eurosun water heaters are fitted with a thermostat and an over temperature cut-out for safety. These devices should not be tampered with or removed.

Do not operate this water heater without the electrical thermostat and over temperature cut-out in the circuit.

The electric element is only connected in models using an electric AES system. No connection is made to the electric element for gas AES systems.

Warning

The AES requires a 220 – 250 volt single phase AC power supply with a capacity suitable for the kilowatt rating of the element selected for the application. For example, a 2.4 kW element requires a 10 amp supply capacity, a 3.6 kW element requires 15 amp supply capacity.

Electrical entry for the electric AES is achieved via a 20mm opening adjacent the element surround.

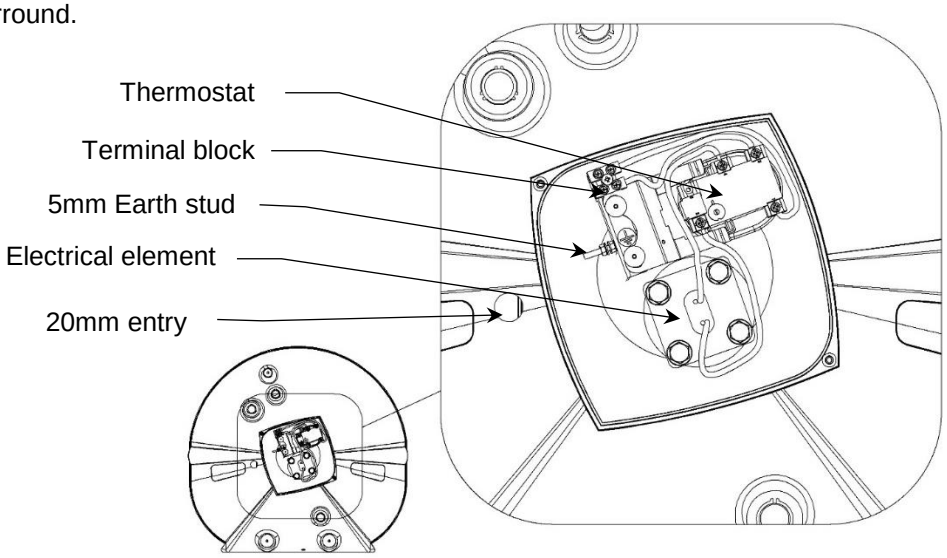


Figure 6-14 - Expansion Tank Connection.

A cable gland with orange circular cable, or 19mm conduit with 3 core TPS cable must be used to make electrical supply to the unit.

The power supply must be protected by an individual fuse or circuit breaker rated to suit the booster size.

The electrical supply to the solar water heater can be operated directly from the switchboard or via a remotely mounted switch or time clock as requested by the customer.

A means for disconnection (e.g. isolator) must be included in the fixed wiring to the solar water heater in accordance with the wiring rules.

Final electrical connection at the solar water heater is as follows:

1. Earth - connected to the earthing stud marked with the earth symbol;
2. Active - connected to the terminal block position marked A or Active;
3. Neutral - connected to the terminal block position marked N or Neutral.

Warning

Do not turn on the power supply until the solar water heater has been filled with water and pressurised. There is a risk of damage to the system if the installation sequence is not followed.

6.5.1 Electrical circuit diagram

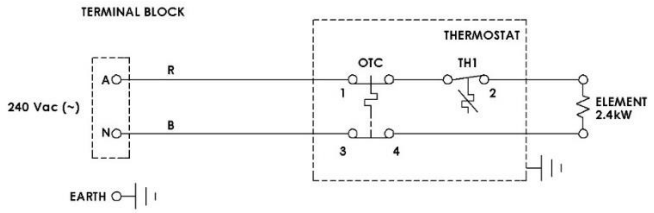


Figure 6-2 Electrical circuit diagram

7 COMMISSIONING & CUSTOMER HAND OVER

7.1 Commissioning

When all connections have been completed the solar water heater can be filled with water.

1. Before turning on the cold water supply to the system, open one hot tap within the household to release air from the system during the filling process. Do not leave the open tap unattended during the filling process.
2. Turn on the cold water supply and wait for the system to fill.
3. When water flows from the open hot tap without air bursts the hot tap can be closed. This will now pressurise the solar water heater system.
4. Once the system is pressurised, all connections on the water heater must be checked for leaks and repaired if necessary.
5. When the system is proven water tight, power and/or gas can be applied to the AES system.
6. To test that the element is operational turn the circuit breaker in the switch board on and off, you should see the power meter's speed change during this action.
7. For gas AES systems, turn on a hot water tap and the gas heater will ignite provided the water temperature is less than 70 °C.

Warning

7.2 Customer Hand Over

The solar water heater is now fully operational.

Once the solar water heater is commissioned and you are confident it is operating correctly, complete the installation details on the carbon copy sheet at the beginning of the Owner's Manual. Please remove the Eurosun (blue) and the installer (pink) copy.

Please hand the owner the Owner's Manual, Commissioning Kit and Gas Heater Manual (if gas AES is used).

Before leaving the installation, ensure that the customer is fully aware of the systems operation and whom to contact should there be any questions in the future.

Thank you for installing our world class Eurosun solar water heater.

8 STANDARD S5 WARRANTY

8.1 Warranty terms

This warranty is given by Energie Group Australia Pty Ltd ABN 50 166 500 787 (Eurosun) in relation to Eurosun Solar Hot Water Systems (the Product).

The benefits conferred by this warranty are in addition to all other legal rights and remedies of the Customer in respect of the Product. Given installation and application is in accordance with the manufacturer's specifications and instructions, the Product and components are warranted by Eurosun for the cost of labour and components in the event of defects arising from faulty materials and/or workmanship in accordance with the warranty conditions and exclusions stated in this document.

Where the Product is installed outside the boundaries of a Capital Cities Metropolitan area or where the Product is installed outside a 25km radius of a Eurosun Dealer business address, the cost of transport, insurance and travelling will be charged to the consumer.

For all new Product purchases through public sales auctions, internet and/or other electronic sales auctions or remote offerings, the warranty for the Product is the responsibility of the dealer or reseller of the Product, and not of Eurosun.

Warranty of the Product will remain with the Product for the warranty coverage period.

8.2 Warranty conditions

The initial point of contact for all Warranty claims is the Eurosun Dealer from whom the Product was purchased.

All warranty claims must be reported to Eurosun no later than 14 days from the date the fault is reported to the Eurosun Dealer. All terms of this warranty are effective from the date of installation of the Product and the attending service person reserves the right to verify this date by requesting a copy of the certificate of compliance[1], installation record issued by an appropriately qualified installer or proof of purchase prior to the commencement of any warranty work. The Product must have been installed, commissioned, serviced, repaired and removed by a licensed gasfitter or plumber in accordance with the manufacturers installation instructions, current AS/NZS 3000, AS/NZS 3500, AS/NZS 5601, local regulations and municipal building codes by persons authorised by local regulations to do so. Cost of labour or materials to remedy an installation that does not comply with these requirements will be at the express cost of the installer.

The Product must be operated and maintained in accordance with Eurosun's operating instructions. This warranty only applies to the Product as supplied by Eurosun and does not apply to any additional electrical and/or plumbing parts supplied by the installer. Where the appliance has not been sited in accordance with the installation instructions or installed such that normal service access is difficult, a service charge may apply. If, at the discretion of the attending service person, access is assessed as dangerous, service will be refused.

[1] Certificates of compliance must be issued by the installer in all States and Territories of Australia where this requirement is mandatory. States and Territories where installers are not required to issue Certificates of compliance, appropriate documentation must be provided.

Any work required to gain reasonable access to the appliance will be chargeable to the customer by the attending service person including, but not limited to, removal of cupboards, doors, walls, or the use of special equipment to move components to floor level.

The Product is covered for the indicated period from the date of installation. Should a part of the complete Product be replaced during this period, only the balance of the original warranty will continue to remain effective.

This warranty applies to the Product when it is connected directly to a reticulated water supply from a state approved water utility.

This warranty does not apply if the Product is connected to any alternative water supplies if the water chemistry and impurity levels of alternative water supplies exceed the limits specified in Table 4.1 Water quality requirements on page 9.

Examples of alternative water supplies include private bore water, water from private dams and water supplied from a reticulated water supply but where the water chemistry is deliberately altered before supplying the water heater. Should the Product be installed in a regional location where regular flushing is required due to sediment build-up, the drain cock for flushing must be fitted at the time of installation at customer expense. A warranty will apply to rain water tanks, as alternative water supply, **ONLY** in circumstances where rain water is filtered and free of any physical or sediment debris and water quality does not exceed the limits specified in Table 4.1 Water quality requirements on page 9.

Component manufacturers are at liberty to alter the design or construction of the components notwithstanding that the Product may have been sold by description or sample, even though alterations made have been introduced from the date of contract and the date of delivery provided that the Products are of the same or similar quality and are fit for the purposes for which they are purchased. Such alterations shall not constitute a defect in design or construction under this warranty.

Eurosun reserves the right to alter the design or construction of the Product within allowance of the relevant Standard(s), industrial and State and Territory legislation without notice. Eurosun warrants to the original purchaser, or for Product purchased from a Reseller, to the original end user, that the Product will be free from any defects in materials and workmanship from the date of shipment or invoice or, if longer, the period stated in this policy in accordance with the warranty terms in Table 2. During the warranty period, Eurosun will at its option apply one of the three following remedies:

i. provide replacement parts necessary to repair the Product,
ii. replace the Product with same Product or similar approved newer design,
iii. refund the amount purchaser paid, LESS DEPRECIATION, upon its return.

Eurosun or an Eurosun Dealer will provide labour to resolve warranty issues during the warranty period. Repair service shall be available at the purchaser's location. Eurosun will determine how and where repair services are provided, and the purchaser may, at Eurosun's reasonable cost, be required to deliver product to an authorised location.

Replacement parts and/or Products will be new or serviceably used, comparable in function and performance to the original part or Product and warranted for the remainder of the original warranty period. Purchasing additional Products from Eurosun does not extend your warranty period.

If Eurosun requires the return of defective parts/Products, the Eurosun Dealer/purchaser shall return them within 14 days of receiving replacement parts. Failure to return defective parts will attract charges for replaced parts/system and their shipment to the Eurosun Dealer/purchaser.

Eurosun offers 12 months comprehensive warranty for the Product including parts and labour. In addition to 12 months comprehensive warranty, Eurosun offers 4 years warranty on tanks and collectors for the Product as shown in Table 8.1 below.

Component	Warranty coverage	
	Parts Warranty	Labour Warranty
TS Plus Tank (Open Circuit)	5 year	5 year
TS Collector (Open Circuit)	5 year	5 year
Mounting Frame	1 year	1 year
Element	1 year	1 year
Thermostat, Solar	1 year	1 year
Valves and plumbing accessories	1 year	1 year
Product only interconnecting pipes and fittings	1 year	1 year

Table 8.1 Warranty Terms

8.3 Warranty Exclusions

The following exclusions may cause the warranty to become void, and may incur a service charge and cost of parts that may be required.

1. Accidental damage, failure due to misuse, abuse and accidents.
2. Failure due to incorrect installation and/or attempts to repair the Product other than by an Eurosun Dealer and/or approved service personnel.
3. Failure to install, commission, service, repair and remove the Product in accordance with the manufacturers installation instructions, current AS/NZS 3000, AS/NZS 3500, AS/NZS 5601, local regulations and municipal building codes by persons authorised to do so.
4. Failure due to use of parts other than Eurosun branded/approved parts.
5. Where the open circuit solar collector leaks or fails to operate normally due to frost or freezing.
6. Damage and/or breakage to the collector glass.
7. Where the Product component has failed directly or indirectly as a result of excessive water pressure, negative pressure (partial vacuum), corrosive atmosphere, faulty plumbing and/or electrical wiring, or major variations in electrical energy supply.
8. Where the water stored in the cylinder exceeds at any time levels as per Table 4.1 Water quality requirements on page 9.
9. Any serial tags/stickers on any of the components are removed or defaced.
10. The Product is relocated from its original point of installation.
11. This warranty does not cover:
    a. claim for damage to walls, foundations, gardens, etc. or any other consequential loss or inconvenience either directly or indirectly due to leakage from the solar water heating system or any other matter related to the system or its operation.
    b. the effects of sludge/sediment as a result of connection to a water supply from suitably filtered or treated sources e.g. spring, dam, bore or river.
12. Consequential damage or any incidental caused by a breach of the requirements as set out in clauses 1.2, 4.3, 4.4, 6.4.1

13. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

8.4 OH&S Disclaimer

Eurosun and its Authorised Dealers work with and recommend various installation and plumbing companies to install, test and certify correct operation of solar hot water systems or the Product. Eurosun is a supplier of systems only.

Each installation must be covered by the installer's insurances, commercial terms and conditions and by the applicable OH&S legislation. Each person that installs assembles or services must comply with all OH&S requirements relevant to the type of work being conducted including, but not limited to, plumbing work, work on heights exceeding 2.5m and electrical work. The customer must ensure that it complies with all its OH&S obligations. This warranty will be void if these conditions are not met.

9 CONTACT DETAILS

Solar Repairs
15 Delawney St
Balcatta, WA
6021
1300 555 274

55-4021 Rev M