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› [Sunshine](#) /

› [Sunshine Solar Water Heater 15-Tube \(Model CS15T\) User Manual](#)

## Sunshine CS15T

# Sunshine Solar Water Heater 15-Tube (Model CS15T) User Manual

Model: CS15T

## INTRODUCTION

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This manual provides essential information for the safe and efficient use of your Sunshine Solar Water Heater, 15-Tube model CS15T. Please read these instructions carefully before installation and operation to ensure optimal performance and longevity of your unit. This solar water heater is designed to harness solar energy for heating water, offering an environmentally friendly and cost-effective solution for your hot water needs.

## PRODUCT FEATURES

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The Sunshine Solar Water Heater offers several key benefits:

- Significant energy savings, potentially reducing gas consumption by up to 80%.
- Reduces environmental impact by avoiding polluting gas emissions.
- Designed for straightforward and quick installation.
- Engineered for a long service life of up to 25 years.



Image 1: The Sunshine Solar Water Heater, featuring a silver storage tank and 15 dark vacuum tubes mounted on a support structure.

## SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your solar water heater. It is highly recommended that installation be performed by a qualified professional.

### Key Installation Considerations:

- **Location:** Choose a location with maximum exposure to direct sunlight throughout the day, free from shadows cast by buildings or trees.
- **Orientation:** The preferred orientation for the solar collector is South (in the Northern Hemisphere) to maximize solar gain.
- **Inclination Angle:** The recommended inclination or angle of use is 22.5 degrees for optimal solar absorption.
- **Mounting:** The unit is designed for wall mounting. Ensure the support structure is securely fastened to a stable surface capable of bearing the full weight of the unit when filled with water.
- **Plumbing:** Connect the water inlet and outlet pipes according to local plumbing codes. Ensure all connections are watertight to prevent leaks.
- **Components:** Ensure all included components, such as the base and vacuum tubes, are correctly assembled as per the manufacturer's guidelines.

Refer to the detailed technical specifications for dimensions and component details to assist with planning your installation.

## OPERATING INSTRUCTIONS

Once installed, the Sunshine Solar Water Heater operates largely automatically, utilizing solar energy to heat water. Here are general operating guidelines:

- **Initial Fill:** After installation, slowly fill the storage tank with water. Ensure all air is purged from the system.
- **Solar Heating:** The vacuum tubes absorb solar radiation, heating the water inside the tank. The system is designed to operate with water as the working fluid.
- **Water Temperature:** The operating temperature can reach approximately 80°C. Exercise caution when using hot water from the system.
- **Hot Water Usage:** Hot water will be available as long as there is sufficient solar radiation. In periods of low sunlight or high demand, a backup heating system (if installed) may be required.
- **Safety:** Never attempt to drain or refill the system while it is hot or under pressure.

## MAINTENANCE

Regular maintenance ensures the longevity and efficiency of your Sunshine Solar Water Heater.

- **Vacuum Tube Cleaning:** Periodically clean the exterior of the vacuum tubes to remove dust, dirt, or debris that may reduce solar absorption. Use a soft cloth and mild detergent if necessary.
- **Leak Inspection:** Regularly inspect all plumbing connections for any signs of leaks. Address any leaks promptly to prevent water loss and damage.
- **Support Structure Check:** Annually inspect the support structure for corrosion, loose fasteners, or any signs of instability.
- **Sacrificial Anode (Magnesium Bar):** The system includes a magnesium bar (sacrificial anode) to protect the interior of the tank from corrosion. This component should be inspected and replaced periodically by a qualified technician, typically every 1-3 years depending on water quality.
- **Winterization (if applicable):** In regions prone to freezing temperatures, consult a professional for proper winterization procedures to prevent damage to the system.

## TROUBLESHOOTING

This section addresses common issues you might encounter with your solar water heater.

Problem	Possible Cause	Solution
Insufficient Hot Water	<ul style="list-style-type: none"><li>• Low sunlight</li><li>• Dirty vacuum tubes</li><li>• Air in the system</li><li>• Incorrect orientation/angle</li><li>• Excessive hot water demand</li></ul>	<ul style="list-style-type: none"><li>• Wait for more sunlight or use backup heater.</li><li>• Clean vacuum tubes.</li><li>• Bleed air from the system.</li><li>• Verify installation parameters.</li><li>• Reduce hot water consumption or consider a larger system.</li></ul>
Water Leaks	<ul style="list-style-type: none"><li>• Loose connections</li><li>• Damaged seals</li><li>• Cracked vacuum tube</li></ul>	<ul style="list-style-type: none"><li>• Tighten connections.</li><li>• Replace damaged seals (silicon sealing material).</li><li>• Replace the damaged vacuum tube.</li></ul>

Problem	Possible Cause	Solution
No Hot Water	<ul style="list-style-type: none"> <li>No sunlight</li> <li>System not filled</li> <li>Major system failure</li> </ul>	<ul style="list-style-type: none"> <li>Verify sunlight conditions.</li> <li>Ensure the tank is filled.</li> <li>Contact a qualified technician.</li> </ul>

For issues not covered here, or if you are unsure about a repair, please contact a qualified technician or the manufacturer's support.

## SPECIFICATIONS

Below are the technical specifications for the Sunshine Solar Water Heater, Model CS15T.

<b>FICHA TECNICA</b>							
Modelo	CS8	CS10	CS12	CS15	CS18	CS20	CS24
<b>COLECTOR SOLAR</b>							
Material de tubos de vacío	Borosilicato						
Numero de tubos	8	10	12	15	18	20	24
Largo (mm)	1800						
Diámetro (mm)	58						
<b>TERMOTANQUE</b>							
Material tanque interior	Acero Inoxidable 304 - 2B						
Calibre	.48						
Material tanque exterior	Acero Inoxidable 201 - BA						
Calibre	.35						
Diámetro del tanque (mm)	470						
Largo (mm)	85	970	1155	1390	1625	1790	2100
Capacidad de almacenamiento (L)	90	115	150	180	210	230	280
Material aislante	Poliuretano						
Espesor de capa aislante (mm)	.50 mm						
<b>ESTRUCTURA DE SOPORTE</b>							
Material	Perfil de acero inoxidable						
Color	inoxidable						
<b>SISTEMA INTEGRAL</b>							
Orientación preferente	Sur						
Inclinación o ángulo de uso (°)	22.5						
Temperatura de operación (°C)	80						
Líquido de trabajo	Agua						
Material de sellado entre tubos de vacío y tanque	Silicón						
Rendimiento (personas)	1 - 2	2 - 3	3 - 4	5 - 6	7 - 8	8 - 9	9 - 11
<b>MEDIDAS</b>							
Alto (mm)	1057	1057	1057	1057	1057	1057	1057
Largo (mm)	2110	2110	2110	2110	2110	2110	2110
Ancho (mm)	850	970	1155	1390	1625	1790	2100

NOTA: Incluye barra de magnesio.

Image 2: Technical Data Sheet providing detailed specifications for various Sunshine Solar Water Heater models, including the CS15T.

Specification	Detail (Model CS15T)
Manufacturer	SUNSHINE
Model Number	CS15T
Color	Silver
Style	Indoor Installation (referring to the system's application, not physical placement)
Power Source	Solar Energy
Mounting Profile	Wall Mount
Special Feature	Solar Water Heater
Included Components	Base, Tubes
Product Dimensions (L x W x H)	1390 x 1390 x 1057 cm (Note: These dimensions from product data may be a general entry. Refer to detailed dimensions below.)
Vacuum Tube Material	Borosilicate
Number of Tubes	15
Tube Length	1800 mm
Tube Diameter	58 mm
Inner Tank Material	Stainless Steel 304 - 2B
Inner Tank Gauge	0.48
Outer Tank Material	Stainless Steel 201 - BA
Outer Tank Gauge	0.35
Tank Diameter	470 mm
Tank Length	1390 mm
Storage Capacity	180 Liters
Insulation Material	Polyurethane
Insulation Thickness	50 mm
Support Structure Material	Stainless Steel Profile
Preferred Orientation	South
Inclination Angle	22.5°

Specification	Detail (Model CS15T)
Operating Temperature	80°C
Working Fluid	Water
Sealing Material (Tubes to Tank)	Silicon
Recommended Capacity (Persons)	5-6
Overall Height	1057 mm
Overall Length	2110 mm
Overall Width	1390 mm
Note	Includes magnesium bar (sacrificial anode)

## WARRANTY AND SUPPORT

For warranty information, please refer to the documentation provided at the time of purchase or contact the manufacturer directly. The product is designed for a service life of 25 years, subject to proper installation and maintenance.

For technical support, spare parts, or professional assistance with installation and maintenance, please contact Sunshine customer service or your authorized dealer.