



# SunEarth

## OPERATIONS AND MAINTENANCE MANUAL Islander Hot Water Station with Smart Control

### Welcome!

By utilizing a Solar Thermal water heating system you are helping to reduce your homes dependence on non-renewable energy. We hope you enjoy your pre-engineered Islander Hot Water Station (HWS) for many years to come. Thank you and welcome to the SunEarth family!

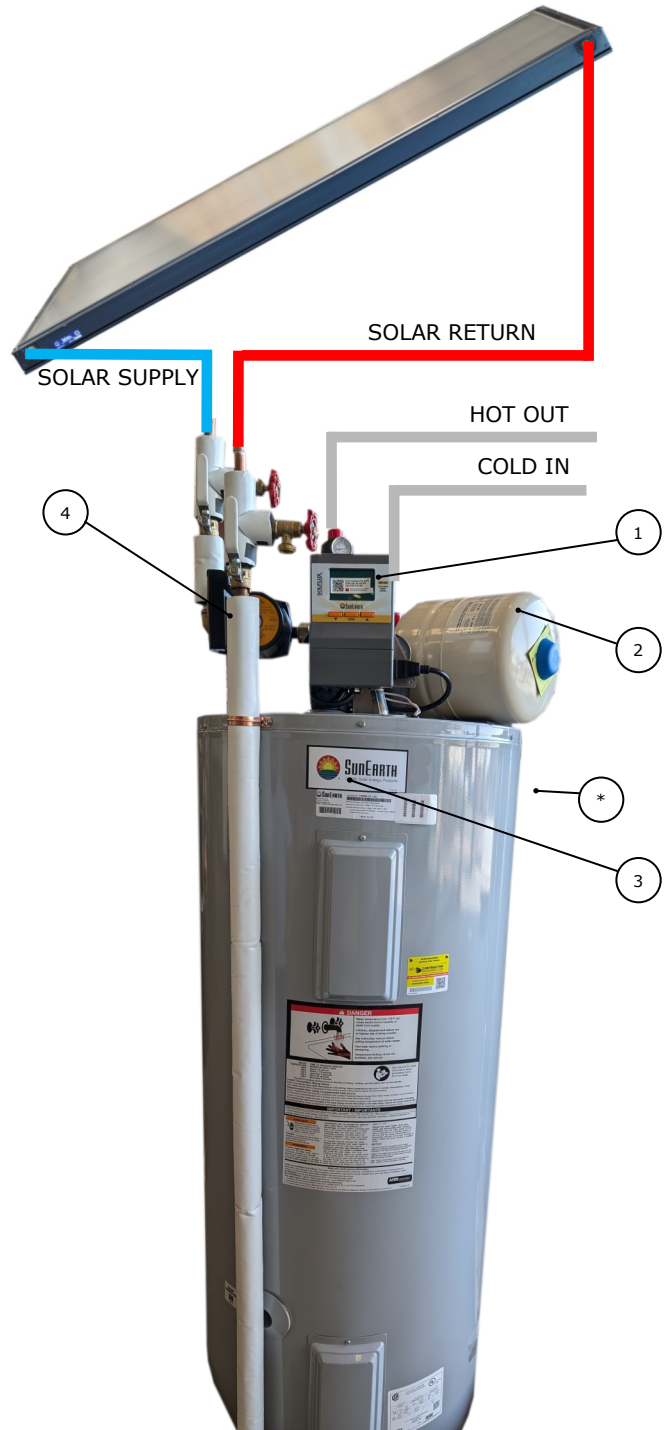
### Components

The components in your pre-engineered Islander HWS include a (1) differential controller with temperature sensors, a (2) potable expansion tank, an analog pressure gauge, a (3) solar storage tank with backup heating element, (4) circulation pump and a optional scale filter (\* not shown).

### System Principles

When the differential controller detects an adequate temperature difference between the collector temperature sensor "T1" and the bottom tank temperature sensor "T2" the pump begins circulating tank water through the system. Water moves through the collector and absorbs energy from the sun, increasing the temperature. The heated water then returns to the solar tank ensuring hot water is always available for delivery. On days without adequate sun, the backup heating element automatically turns on via thermostat to meet the demand.

The Islander HWS is a direct, open loop system and is intended for areas that have never experienced temperatures below 35 degrees Fahrenheit.



# Operations and Maintenance

Typically, the pump should be on when the sun is shining and there is an adequate temperature differential. The pump should be not be running at night or when the solar tank has reached its default maximum set point temperature of 140 degrees Fahrenheit. The top of tank temperature sensor T3 can be checked to ensure your system is functioning properly. For safety, every system includes a thermostatic mixing valve to ensure hot water is always delivered at 120 degrees F.

Maintenance/Interval	Yearly	5 years	<b>Action</b> <b>Caution: Before any maintenance action, please unplug your controller from the wall.</b>	Ref.
Inspect Plumbing for Leaks	X		If any leaks found, contact service person immediately.	1
Clean and Inspect Collector Glass	X		If collector glass is damaged, contact service person immediately.	1
Flush Solar Tank	X		Flush a few quarts of water from the solar tank to reduce sediment build up.	2
Cycle Through Controller Temperatures	X		Ensure there are valid temperatures for T1-T3.	3
Inspect Collector Pressure Relief Valve	X		Lift Pressure Relief lever on top of Collector and discharge several quarts to drain.	1
Inspect Insulation Integrity	X		If any insulation is damaged or missing, replace with equivalent insulation.	1
Inspect Solar Tank Relief Valve	X		Lift T&P lever on top of Solar tank and discharge several quarts to drain.	2
Inspect Solar Tank Anode Rod	X		Shut off cold water supply and remove anode rod. Replace if more than 6 inches of core wire is exposed.	2
Inspect Potable Expansion Tank	X		Depressurize Solar Tank. Verify Charge Pressure equal to house pressure adjust if necessary. If fluid expells, contact service person immediately.	1
Flush Solar Collectors	X		Attach hose to return line drain, direct hose to floor drain, rotate return line ball valve and drain valve to flush for several minutes.	1
Check System Pressure	X		Check analog pressure gauge. Ensure pressure is between 35 and 100 PSI.	N/A
Replace Solar Tank Anode Rod		X	Shut off cold water supply and replace anode rod.	2
Replace Sediment Filter Cartridge	X		Shut off cold water supply and replace sediment filter cartridge.	2

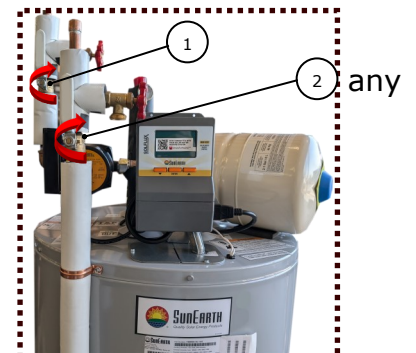


1. Please refer to the SunSaver Installation manual for more detailed information.
2. Please refer to the Solar Tank Use and Care Manual for more detailed information
3. Please refer to the SESF-3221 manual for more detailed information.

If you are unsure how to perform routine maintenance or there are critical problems found please unplug your controller from the wall, close solar supply valve (1) and solar return valve (2) by rotating clockwise, drain collectors from the feed line and return line through valve drains, then contact your service provider.

Service provider: \_\_\_\_\_

Telephone: \_\_\_\_\_



MANUFACTURED BY:



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