Solar Thermal Product Listing

No./SRCC-19013

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CSI:

DIVISION: 22 00 00 – PLUMBING
Section: 22 50 00 - POOL PLUMBING SYSTEMS

PRODUCTS:

Solar Pool Heating Systems
Solar Pool Heating Collectors

PRODUCT LISTING PROGRAM:

The solar pool heating system(s) listed below have been evaluated to the codes and standards specified by the Solar Rating & Certification Corporation (ICC-SRCC™), an ISO/IEC 17065 accredited in accordance with the *ICC-SRCC Rules for Solar Heating & Cooling Product Listing Reports*. This award of listing is subject to all terms and conditions of the *ICC-SRCC Rules for Solar Heating & Cooling Product Listing Reports*, the conditions established in this document. The listing program includes periodic factory inspections and surveillance of the manufacturer's quality management system.

COMPLIANCE WITH:

- ICC 902/PHTA 902/SRCC 400-2020, Solar Pool & Spa Heater Standard
- ICC 901/SRCC 100-2020, Solar Thermal Collector Standard
- 2025 California Building Energy Efficiency Standards (CA Energy Code)

LISTEE:

Techno-Solis, Inc.
301 20th Street South
St. Petersburg, FL 33712 USA

www.techno-solis.com
(727) 823-6766

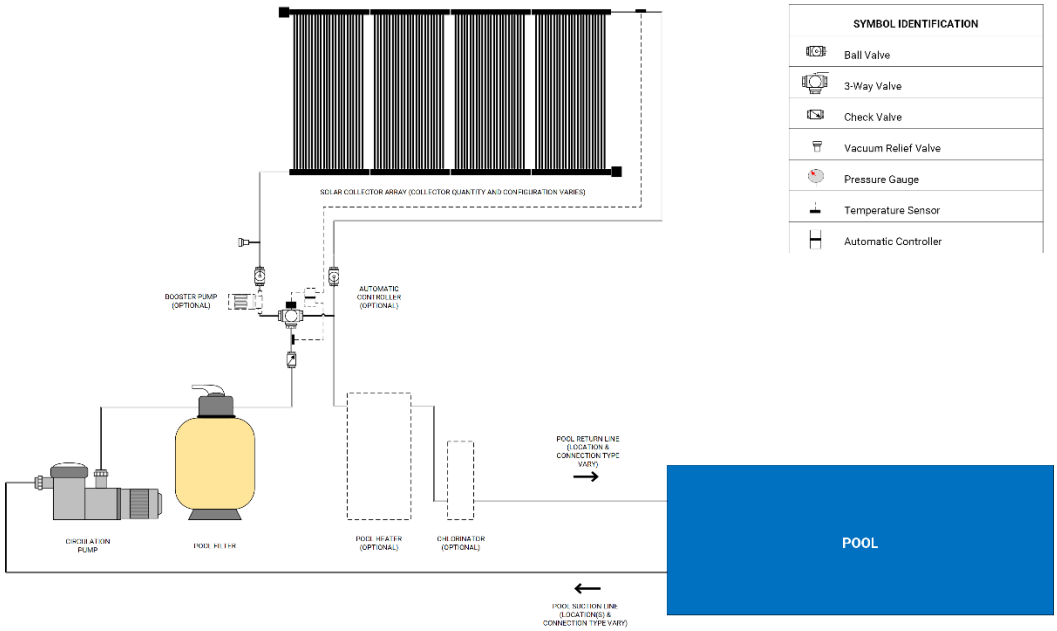
LISTED MODELS: **Swimmaster**

System Configuration: Active, Direct Heater for Swimming Pools and/or Spas

Pump Type: ☒ Pool Circulation Pump ☐ Dedicated Heater Pump ☒ Solar Booster Pump

Freeze Protection: Automatic drain down and/or recirculation freeze protection; Freeze tolerance 42°F (6°C), specified by manufacturer (not independently verified by ICC-SRCC.)

Control Type: Manual with optional automatic controller available.



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SYSTEM CONFIGURATION & PARTS LIST:

The solar pool heating system design evaluated is shown in the schematic above. Components must be installed in the order and configuration shown and per manufacturer's installation instructions. Components must meet the requirements below and conditions of this listing, in addition to the system manufacturer's instructions and applicable local codes to maintain the validity of this listing for a given installation. Where differences exist, the instructions in this certification must govern.

PART	QTY	DESCRIPTION & SUBSTITUTION
Solar Thermal Collectors	Varies	Techno-Solis Swimmaster solar thermal collectors (OG-100 Certification 10002063). Swimmaster collectors are available in numerous sizes. Collector arrays may contain different sizes of collectors, provided that all sizes used are addressed in the OG-100 certification. The quantity, size, connection and configuration of the collectors must be per system installation instructions. See Condition #9.
Piping	Varies	PVC Schedule 40 pressure-rated piping sized per installation instructions.
Pipe Fittings	Varies	PVC Schedule 40 pressure-rated approved for use with selected piping.
Vacuum Breaker Valve	1	Vacuum relief valve, sized per manufacturer's instructions, must comply with ANSI Z21.22. Sized per installation instructions.
3-Way Valve	1	Full-port valve must be sized per installation instructions. When an automatic controller is used, the 3-way valve is motorized.
2-Way Valve	2	Full-port valve sized per installation instructions.
Check Valve	2	Valve sized per installation instructions.
Controller Kit (OPTIONAL)	1	Kit consists of controller, sensors, sensor wiring, valve motors. Controller must be listed to UL 60730-1, UL 873 or CSA E60730.
Booster Pump (OPTIONAL)	1	Booster pump motors must be listed to UL 1004-1, UL 1081, CSA C22.2 No. 108 or the relevant motor requirements of UL 1563 or CSA C22.2 No. 218.1.

INSTALLATION:

Collectors and solar pool and spa heating systems must be installed in accordance with the manufacturer's published installation instruction, the applicable code(s) and this listing.

All individual components of the system which may require periodic examination, adjustment, service and or maintenance must be easily and safely accessible by the owner in accordance with the codes in force at the installation site. Access shall be provided to all valves, filters, controls, for operation and maintenance in accordance with manufacturer's instructions and local codes, per ICC 902/PHTA 902/SRCC 400 Section 302.4, 405.1.1, 405.2.2, 409.1.2.

Solar thermal collectors and piping shall be installed sloped to drain by means of gravity when the pump is not in operation, as specified in the system installation instructions and ICC 902/PHTA 902/SRCC 400 Section 302.12.3 and 403.2. The three-way valves must be drain type, sized and installed per system installation requirements. Piping exposed to UV radiation shall be protected from degradation per Section ICC 902/PHTA 902/SRCC 400, Section 403. Two-way, three-way and check valves must be labeled with the direction of flow per ICC 902/PHTA 902/SRCC 400, Section 404.

Structural supports for system components shall be selected and installed in such a manner that thermal expansion of the collector and piping will not cause damage to the collector, structural frame or building in accordance with ICC 902/PHTA 902/SRCC 400, Section 402.2. Neither wind loading (including uplift) nor the additional weight of filled collectors shall exceed the live or dead load ratings of the building, roof, roof anchorage, foundation or soil. Collector supports shall not impose undue stresses on the collectors. The design load shall be as specified by the codes in force at the installation site and shall include an additional load due to snow accumulation for applicable locations.

System must be installed on pools and spas with suction entrapment avoidance in accordance with APSP/ICC 7 and APSP/ICC 16, where applicable per ICC 902/PHTA 902/SRCC 400, Section 302.9.

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CONDITIONS OF LISTING:

1. System must be installed in accordance with all applicable local codes and system manufacturer's instructions. Components must meet and be installed per the requirements of this listing.
2. Components must be installed in the exact configuration shown in the applicable schematic in this document. Components marked as "optional" in the parts list and schematic are not required. But where they are installed, they must be installed in the location specified in the applicable schematic.
3. System must not diminish the operation or ability of the pool or spa to function safely, as defined by applicable codes and regulations in force at the installation site and the pool or spa manufacturer's requirements and ICC 902/PHTA 902/SRCC 400, Section 301.4.
4. System must not reduce the flowrate within a pool or spa's recirculation system during any operational condition, to a level below the turnover rate required by the authority having jurisdiction or the pool or spa manufacturer.
5. System must not weaken or impair the safe operation of buildings or structures in accordance with local codes in accordance with ICC 902/PHTA 902/SRCC 400, Section 301.5.
6. System is only approved to heat pool or spa water.
7. Controllers and any associated wiring and terminals governing the operation of the solar system shall meet the requirement of ICC 902/APSP 902/SRCC 400, Solar Pool and Spa Heating System Standard Section 409:
    a. Controller shall be listed to UL 60730-1, UL 873 or CSA E60730, as applicable
    b. Controller shall be prohibited from bypassing or overriding safety functions
    c. If controller is plugged into an outlet, the plug shall be labeled with a warning that the controller shall not be unplugged. Outlets used for controllers shall comply with NFPA 70 or CSA C22.1.
    d. Control circuit wiring and terminal shall be identified, sensors wire shall be temperature and fire rated, sized, secured and supported in accordance with NFPA 70 or CSA C22.1 and manufacturer's instructions.
8. Backup heaters, filters, circulation pumps, chlorinators and collector supports are not included within the scope of this listing and are shown in the schematic for reference purposes.
9. Submittals must be provided to the authority having jurisdiction for each system installed under the 2025 CA Energy Code to demonstrate compliance with the system sizing requirements for each project per Section 110.4(c) and Joint Appendix JA16. Systems installed to meet the requirements of the 2025 California Energy Code, Section 110.4(c) must have a solar collector array with a total area at least 60% of the total surface area of the pool and spa for residential systems. The array must be at least 65% of the total surface area of the pool and spa for non-residential and multi-family systems.

IDENTIFICATION:

The solar pool heater listed above is eligible to display the following listing marks as governed by the *ICC-SRCC Rules for Mark and Certificate Use*. The system shall be permanently marked with the following information as required by the codes and standards listed above.

1. Manufacturer's name
2. Model number

Listings are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the listing or a recommendation for its use. Listings do not address product performance and do not provide performance or efficiency ratings of any kind. There is no warranty by the Solar Rating and Certification Corporation, express or implied as to any finding or other matter in this listing, or as to any product covered by the listing. This document must be reproduced in its entirety.

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