

FAFCO Solar Water Heater

Specifications

FAFCO's revolutionary solar water heating system sets an industry standard for efficiency and affordability.

Benefits

- Reduces water heating costs by an average of 50%–80%
- Easy to install
- Simple user interface
- Lightweight, flexible solar collectors
- Freeze-tolerant drainback design
- Cannot overheat

Key Features

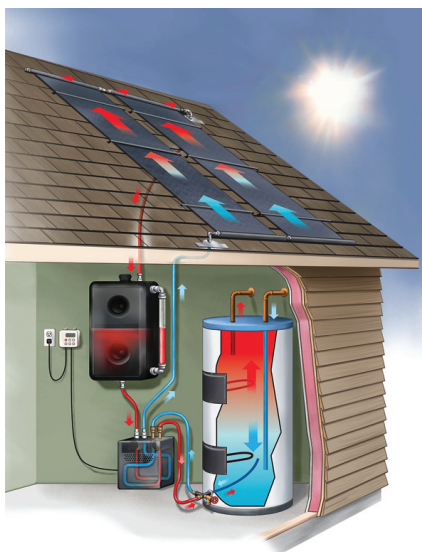
Single Box Solution (21.375" x 19" x 40.5")

- Two Polymer Solar Collectors
- Digital Solar Controller with animated display and two sensors
- 80' of Polymer Tubing and Quick Connect Fittings
- Polymer Drainback Tank
- Self-Contained Module includes pumps and heat exchanger
- Roof Jacks and Mounting Hardware
- Easy to install Tank Adapter and all Plumbing Hardware

Key Components

Polymer solar collectors, tubing and drainback tank operate at low pressure and are not in direct contact with high pressure potable water.

System Diagram



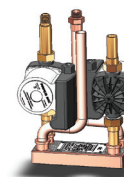
Solar Collectors

Are lightweight, efficient, flexible and come rolled up with the system in a single box.



Solar Controller

Activates the solar system during optimal conditions and provides user feedback.



Circulation Module

Includes two pumps and a stainless steel heat exchanger.

FAFCO Solar Water Heater

Specifications



Performance and Certifications

System performance is affected by many changing variables including available solar energy, the solar collector(s) installed pitch and orientation, the ground water temperature and ambient air temperatures, and the daily household hot water demand comprised of bath, kitchen and laundry uses. These conditions, which may vary from home to home even in the same neighborhood, determine how much energy your solar system will save.

Engineering Specifications

• Overall System

The following shall be the specifications for the solar water heating system. The system shall be a FAFCO polymer drainback type that is freeze resistant, overheat protected, using unglazed collectors and polymer connection tubing.

• Collector

The collectors shall be FAFCO unglazed UV resistant polymer collectors designed specifically for solar domestic water heating. The dimensions of the collector shall be 144 inches in length, 24 inches in width with a 1/4" or less absorber thickness. The weight of the collectors shall be less than 1 lb/sqft when full of water. The collectors shall be fully chemical and corrosion resistant beyond the capability of any metal. The collectors shall have excellent long-term weatherability as verified by 35 years or more of field installed product, accelerated outdoor exposure, and other extensive laboratory testing. The maximum operating pressure shall be 30 psi and maximum operating temperature shall be 200 degrees-F.

• Collector Mounting Hardware And Roof Jacks

The mounted collector shall be anchored using FAFCO mounting hardware. The roof jacks shall be FAFCO low profile galvanized steel roof jacks with 5/8" I.D. water tight rubber grommets.

• Plumbing

Plumbing of the solar collectors to the drainback tank and circulation module shall be 1/2" I.D. tubing rated for temperatures up to 200 degrees-F. Connections shall be of the push fit type with EPDM seal that require no tools for securing. Mounting clips shall be used to secure the plumbing every 3 feet. All plumbing exposed to sunlight shall be made of UV protected material. A drain valve shall be installed above the circulation module to drain the drainback tank and solar loop.

• Drainback Tank

The drainback tank shall be made of a high temperature polymer capable of withstanding operating temperatures up to 200 degrees-F. The capacity shall be 10 gallons with dimensions of 33in. x 18in. x 5in. The drainback tank shall have an integrated sightglass for viewing the solar loop water level. The drainback tank shall be vented to the atmosphere at all times by way of a vented cap.

• Circulation Module

The circulation module shall consist of a single unit with preassembled pumps, heat exchanger, filter, and wiring. The dimensions shall be 11in. x 11in. x 9in. The voltage input shall be 120 volts. The heat exchanger shall be a copper brazed stainless steel plate heat exchanger. The potable loop shall consist of a low head pump with union connections and integrated 20 mesh filter connecting the heat exchanger to the solar tank. The solar loop shall consist of a high head pump with union connections connecting the drainback tank and solar collectors to the heat exchanger. The pumps shall be prewired inside the enclosure such that a single cord exits the enclosure through a protection grommet. The vented enclosure shall be made of a rigid polymer and shall be capable of being easily opened to access or replace inner components.

• Solar Tank Connection

The solar tank connection shall be a coaxial tank adapter which allows the drainport of the solar tank to both feed and return the water in the solar tank to the circulation module. The coaxial tank adapter shall have a connection for the solar tank drain port, drain bib, inlet connection to the circulation module, and outlet connection to the circulation module. Flexible hoses approved for connecting domestic water heaters shall be used to connect the coaxial tank adapter to the circulation module.

• Solar Controller

The solar controller shall activate and deactivate the circulation module based on temperature difference between the sensor installed at the bottom of the solar tank and the sensor installed adjacent to the solar collector(s). The controller shall have digital accuracy and an animated LCD display that provides real time operating temperatures at the solar collectors, solar tank bottom, and optional solar tank top. The controller shall have varistor high voltage spike protection and fused output protection for the pump circuit. The sensors shall be either RTD type 1000 Ω or thermistor type. The controller shall have an adjustable high limit temperature for the storage tank. There shall be an accessible side-mounted on/off/auto switch on the controller housing.

• Storage Tank

The solar storage tank shall be approved for domestic water heating use with a minimum pressure rating of 150 psi. The tank shall include a pressure/temperature relief valve specified for 210 degrees-F at 150 PSI.

Specifications are subject to change without notice.

FAFCO
SOLAR WATER HEATING

FAFCO, INC.
435 Otterson Drive
Chico, California 95928-8207
800-994-7652

Learn more at www.fafco.com

Made in the USA