

# FAFCO<sup>®</sup> Solar Water Heater Specifications

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

## Benefits

- Single box solution — system carton weighs less than 85 pounds
- Reduces water heating costs by up to 50%, or more in some applications
- Easy to install — typically requires less than a half day
- Simple user interface
- Lightweight, flexible, efficient solar collectors
- Freeze-tolerant design
- Cannot overheat
- Self-cleaning filtration system
- Off-grid operation with optional photovoltaic (PV) solar panel

## System Includes

- Solar Collectors — two polymer solar collectors (48 sq. ft.)<sup>1</sup>
- Integrated Circulation Module — compact design integrates low voltage digital controller, pumps and heat exchanger
- Expansion Reservoir — roof-mounted design accommodates expansion of heat transfer fluid and vents air
- Complete Accessories — flexible tubing, quick connect fittings, roof and plumbing hardware<sup>2</sup>
- Heat Transfer Fluid — optimum freeze protection, heat transfer performance, and code approved for single wall heat exchanger

<sup>1</sup> A solar collector add-on kit (48 sq. ft.) is available as an option

<sup>2</sup> A mounting rack for installing solar collectors on a tile roof is available as an option kit

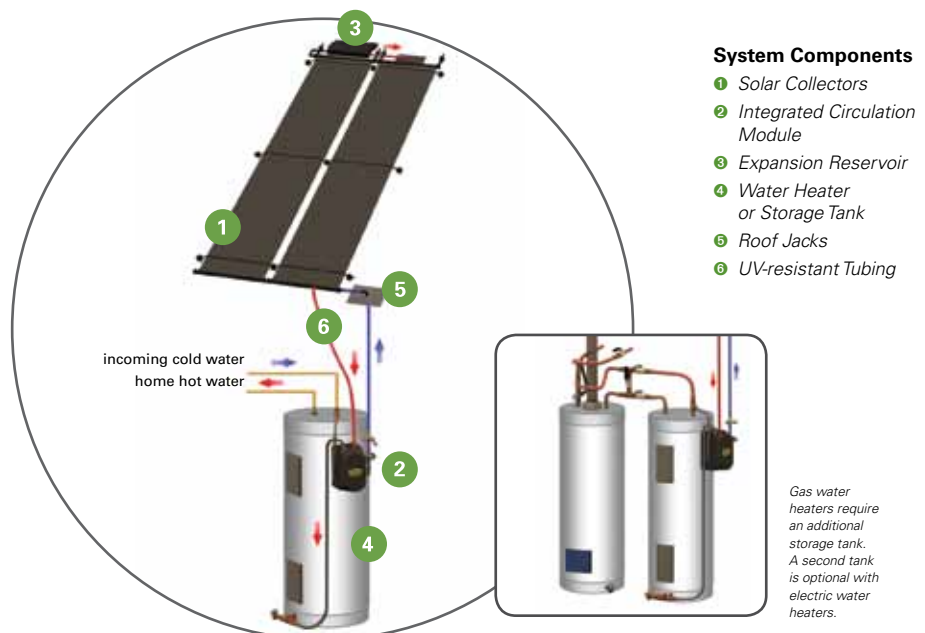
**Solar Collectors**



**Integrated Circulation Module**



**Expansion Reservoir**



## Performance and Certifications

*The Solar Rating and Certification Corporation (SRCC) provides ratings for specific system configurations installed in major cities across the nation. Ratings estimate approximately 50% savings, but depending on the configuration, may be more or less. Actual system performance may vary from the ratings based on available solar energy, installation type, temperatures of incoming water and outside air, and the daily household hot water demand. These conditions, which may vary from home to home even in the same neighborhood, influence how much energy your solar system will save. Please go to [www.solar-rating.org](http://www.solar-rating.org) to view the system configurations approved by the SRCC.*



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## Specifications

### Overall System

FAFCO meets the following specifications for the solar water heating system. The system is a Polymer Glycol, AC or PV type that is freeze resistant, overheat protected, and utilizes unglazed collectors and polymer connection tubing. Polymer solar collectors, tubing and expansion reservoir operate at low pressure and are not in direct contact with high pressure potable water.

### Solar Collector

FAFCO unglazed UV-resistant polymer collectors are designed specifically for solar domestic water heating. The dimensions of the collectors are 8' x 2' or 12' x 2', with a 3/16" absorber thickness. The weight of the collectors is less than 1 lb./sqft. when full of water. The collectors are chemical and corrosion resistant beyond the capability of any metal. The collectors 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 is 30 psi, with a maximum operating temperature of 200 degrees F.

### Collector Mounting Hardware and Roof Jacks

The mounted collectors are anchored using FAFCO mounting hardware. The roof jacks are FAFCO low profile, black, galvanized steel roof jacks with 5/8" I.D. water tight and UV-resistant rubber grommets.

### Plumbing

The solar collectors are plumbed to the expansion reservoir and Integrated Circulation Module (ICM) with 1/2" I.D. UV-resistant solar tubing rated for temperatures up to 200 degrees F. Connections are push fitting type with EPDM seals that require no tools for installation. All plumbing exposed to sunlight is made of UV-protected material. A drain valve is installed above the integrated circulation module to drain the expansion reservoir and solar loop. Filtration is self-cleaning on the potable water loop.

### Expansion Reservoir

The expansion reservoir is of a vented bladder type made of a high temperature polymer capable of withstanding operating temperatures up to 200 degrees F @ 1 psi. The tank dimensions are 20" x 8" x 2.5".

### Integrated Circulation Module

The ICM consists of a single unit with solar controller, preassembled pumps, heat exchanger, and wiring. The dimensions are 10" x 6" x 6.5". The controller and pumps operate with 120V AC or optional PV power. The controller is fully

automatic, activating and deactivating the pumps based on temperature difference between the thermistor temperature sensors installed at the bottom of the solar tank and at the solar collectors. The digital controller provides real time operating temperatures of the solar collectors, solar tank bottom, and solar tank top.

### Self Cleaning Filter

The solar tank connection is via an outlet brass tee with self-cleaning filter.

### Storage Tank

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

### Heat Transfer Fluid

Optimum freeze protection, heat transfer performance, and code approved for single wall heat exchanger.

### PV Solar Panel (Optional)

High efficiency multi-crystalline photovoltaic module that produces over 40 watts maximum power (STC conditions).

Specifications are subject to change without notice.  
Made in the USA