



# Product Description

## Solar Hot Water System



### Key Features

- Most simple and cost-effective Solar Hot Water system
- Unique passive geyser pump\*  
Variable (adaptive) flow rate - works without electricity
- Produces 50-80% of annual water heating needs
- "First time right" installation  
Single-day installation with no electrical work
- Minimum components, flexible PEX tubing
- Highest reliability - no electrical or mechanical components
- Non-pressurized system offers very safe operation
- Protected against overheating, no risk for glycol breakdown
- Freeze protected to -22 F, works throughout North America
- Totally quiet operation
- Maintenance free
- All balance of system components are supplied in one box
- Made in USA

\* Patent pending

### System Components & Technical Specifications

- 1 - 3 SRCC certified glazed flat plate collectors with mounting kits; standard: 4' x 8', optional: 3' x 6' to 4' x 10'. Highest quality brand collector choices: AET, Gobi, SolarHotUSA, SunEarth, Radco.
- 1 storage tank with internal heat exchanger with integrated gas or electric backup; 80 or 120 Gallon.
- 1 Sunnovations solid state passive pump unit with roof flashing integrated, full copper tubing, no mechanical components. Connects directly to PEX tubing using 3/4" brass compression fittings and to the collector using 1" couplings. Glycol overheat protection system purges fluid from collectors into roof mounted overflow reservoir.
- 100 ft x 3/4" PEX tubing; high quality PEX-a tubing: HePex Plus with oxygen barrier. 1" foam tube insulation. Optional: 5/8" copper tubing can also be used if preferred. Recommended pipe run length: 50 ft; max 100 ft each leg.
- 2 tank adapters; 3/4" MPT fittings for tank ports, 3/4" brass compression fittings to PEX. Includes pressure gauge, solar-loop thermometer and solar loop drain ball-valve. Optional: tank temperature solar production gauge.
- Heat transfer fluid: non-toxic, food-safe, 50% Propylene-glycol, 50% distilled water, no additives.

## System Diagram

### SUNNOVATIONS GEYSER PUMP

This is the unique passive pump that creates circulation of the heat transfer fluid, powering the geyser pumping that pushes the hot fluid to an elevated level. The difference in fluid levels creates a circulation (fluid gravity balance) in the solar loop (through the heat exchanger). The flow rate and operating temperature are adaptive to the isolation.

### SOLAR COLLECTOR PANELS

We use standard, glazed flat plate collectors with a “harp” flow pattern. The risers in the collectors function as a part of the pumping mechanism. SRCC OG100-certified collectors should be used.

### PIPE RUN

Insulated PEX tubing with oxygen barrier carries the hot fluid to the water storage tank and returns cooled fluid to the collectors. Our systems stays well within the temperature and pressure limits for PEX, making it safe to use this easy to install and cost effective tubing.

### WATER STORAGE TANK

Our system requires a tank with an internal heat exchanger either with gas or electric as backup. Alternatively, the existing tank can be used as backup.

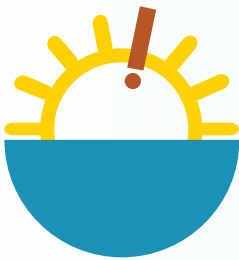
### OVERFLOW RESERVOIR

Another feature unique to our system, it acts as overheat protection: if water in the storage tank is fully heated, the fluid in the collectors is purged into this reservoir, preventing overheating (and over-pressure) in the system as well as glycol break-down. For easy and safe installation, it is mounted above the collector.



SRCC OG300 system certification pending

## Contact Information



**SUNNOVATIONS**  
a revolution in solar hot water

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