

Solar Water Pasteurizers

A Point-of-Use Water Disinfection Technology

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The impact of contaminated drinking water is staggering:

- 80% of all illnesses in the developing world result directly from waterborne pathogens.
- An estimated 4.6 million children and adults die from diarrhea each year. The primary cause of diarrhea is contaminated drinking water.
- 2.5 billion incidents of illness are caused by contaminated water every year.
- 50% of hospitalizations in developing countries result from waterborne disease.
- The leading cause of death for children under the age of five in developing nations is infection from waterborne diseases.
- At any one time, approximately one billion people suffer from diseases contracted by consuming contaminated water.
- 1.2 billion people do not have access to drinking water free from disease-causing microbes. The World Health Organization predicts that by 2025, this number will increase to more than 2 billion.

In addition, water supplies that are stored for long periods of time, such as rain water catchment tanks, are prone to contamination from bacteria growth, insects and rodents. Even within major cities of developing nations, water systems are unsafe and water is boiled to prevent illness. Boiling contaminated water is an effective preventative measure for those who can afford it, but boiling consumes valuable and expensive energy resources. Millions of people cannot afford to buy fuel, have no way to disinfect their drinking water and consequently suffer illness and death.

A solution is now available that uses the heat of the sun instead of heat from wood or electricity to disinfect drinking water. Solar Water Pasteurizers use the natural and free energy of the sun to make water safe to drink. Pasteurization is the universally accepted process of killing harmful microorganisms with heat. Pasteurization achieves the same result as boiling, but at a lower temperature. *E. coli*, for example, is killed rapidly at 140 degrees F, and most viruses are killed at 145 degrees F. Many people do not realize that it is not necessary to boil water to disinfect it. Independent laboratory tests confirm that Solar Water Pasteurizers are 99.999% effective in destroying disease-causing bacteria, viruses, protozoa and worms.

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Solar Water Pasteurizers are designed specifically for reliable operation in rural and remote areas as well as urban environments. They do not require electricity, chemicals, pumps, or water pressure and are an ideal choice where conventional water treatment is not available. To completely remove microbiological contamination and make water safe to drink, all you need is sunshine.

Key advantages of Solar Water Pasteurizers include simple installation, automatic operation, minimal maintenance costs, and long-term life expectancy (15+ years). No other water treatment system is as easy to use, energy efficient and long lasting. Where microbiological contamination is the problem, Solar Water Pasteurizers are a simple, long-term solution for safe drinking water.

Two models are available. The SUNRAY 1000 produces up to 1,000 liters of safe drinking water each sunny day—enough for 500 or more people. Multiple units can easily be installed to provide even larger quantities. This simple and effective system is built to last more than 15 years and with only one moving part, is almost cost-free to maintain.

The SUNRAY 1000 is ideal for villages, schools, health clinics, orphanages, hospitals and many other uses. A new application for the SUNRAY 1000 is to disinfect water that farmers use to wash produce before sending it to market. Using untreated agricultural water for crop washing poses a serious health risk to consumers as well as a liability risk for farmers.

For modest water needs, the SUNRAY 30 disinfects up to 30 liters of drinking water each sunny day. SUNRAY 30 is portable, durable, and lightweight. No installation is required. Using SUNRAY 30 is easy. Simply pour water in, set it out in the sun and in 1-1/2 to 2 hours the water will be disinfected.

The SUNRAY 30 is designed for use by individual families in both urban and rural areas. It can be used to disinfect water from rain water catchment systems, rivers, lakes, shallow wells, and municipal water supplies.

Safe Water Systems' mission is to eliminate needless illness and death, and dramatically improve the quality of life for millions of people by providing the most basic and essential requirement for health—clean drinking water.

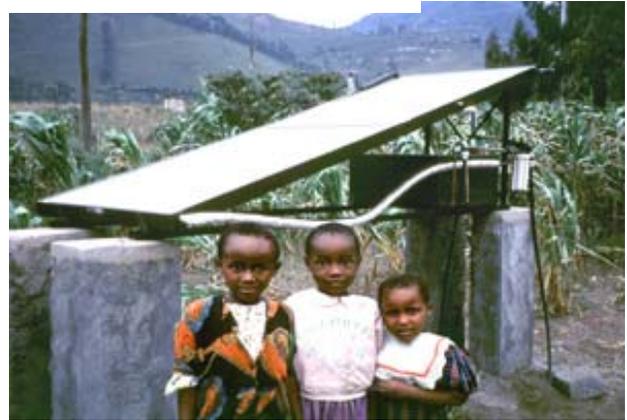
A few examples of Solar Water Pasteurizer installations include:



Samoa National Hospital, Apia, Samoa



Orphanage in Cambodia



Schools in Tanzania



Crop Wash Water Project, Maui, Hawaii