
Solar Pool Heating A Guilt Free Luxury

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Each year, pool owners face a tough choice: a disappointingly short swim season or big bills from an energy wasting pool heater. Owners in the northern United States may only enjoy a few weeks of comfortable temperatures from their large swimming pool investment unless a heater is used. Fortunately, advances in solar technology offer a clean, cost-effective solution. Pool owners can now employ a solar pool heating system to enjoy an extended season friendly to both the environment and their budget.

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Solar heaters use a pool's existing pump to circulate the pool water through solar collectors mounted on the roof, on the ground, or on a custom built rack. The solar collectors transfer the sun's radiant energy into the water. The warmed water flows back into the pool where it gently raises the temperature to a comfortable level.

Most solar pool heating systems include an automatic temperature controller for optimal performance and convenience. A thermostat near the pool pump monitors water temperature and closes the solar valve when the water reaches the desired temperature. For pools with existing conventional heaters, owners may elect to install the solar system as the primary heater and retain the conventional heater for supplemental heat.

To work effectively and maintain aesthetics, solar collectors may be installed some distance from pool pumps and filters. PVC pipe buried in a shallow trench carries water from the pool to the collectors and back. A one horsepower pool pump is sufficient for the vast majority of residential installations. For trench runs over one hundred twenty feet, a one and a half horsepower or larger pump is recommended.

Solar collectors should be mounted on flat surfaces or sloped surfaces with southern, western or eastern exposures for optimal results. Solar collectors perform best when located in an area that gets at least six to eight hours of sunlight per day. Solar collector surface area usually equals about sixty percent of swimming pool surface area. System designers increase collector surface area for less optimal exposures or where sunlight is partially obscured.

A properly sized and professionally installed solar pool heater generally raises water temperature ten to fifteen degrees above the unheated water temperature from May through September. In the northeastern United States, this results in water temperatures between eighty and ninety degrees Fahrenheit. Many pool owners experience a pleasant surprise when they find that their solar system heats the pool on cloudy days. However, solar heaters do not work on dark rainy days or at night.

Solar systems pay for themselves many times over during a typical ten to twenty year system lifespan. A fully installed solar pool heating system roughly equals the cost of an electric heat pump with a dedicated electric line or an oil-fired heater with a new tank. Gas heaters are less expensive upfront, but require large amounts of expensive fuel to warm the pool. Solar panels are a key component of the system cost and the size of a solar panel array is proportional to a pool's surface area.

Fully installed costs range from less than \$3,000 for a small above ground pool to more than \$6,000 for a large, 20' x 40', in-ground pool. Expect an eight to twelve year manufacturer's warranty for collectors and mounting components. The Solar Energy Industries Association estimates that one in five pool heaters sold in the United States are solar heaters. In light of rising energy costs and growing environmental concerns, pool owners owe it to themselves to investigate the cost savings and comfort of environmentally responsible solar pool heating.