

## How does SunStar heat my pool?

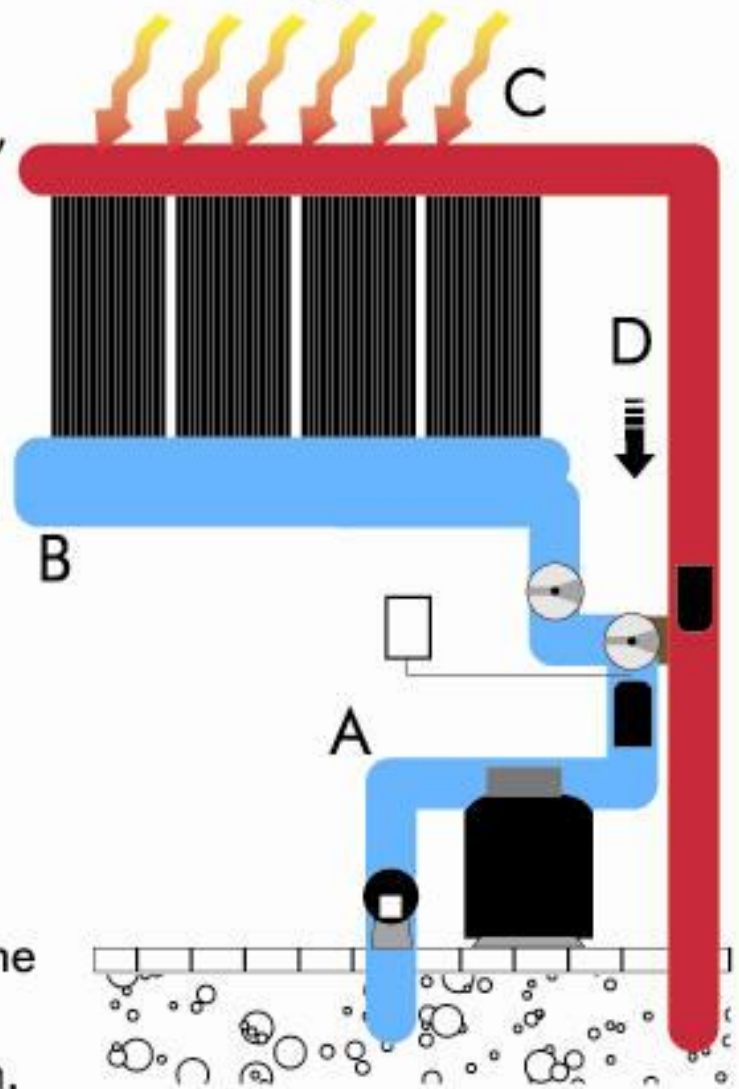
# How Solar Pool Heating Works

A: Using your existing pool pump, pool water is directed through a series of valves to your solar collectors.

B: Pool water enters the solar collectors at the bottom and rises to the top through the individual tubes of the collector.

C: As the water rises through the collector it is heated by the sun's radiant energy.

D: The water is then returned to the pool to repeat the cycle until your pool has been warmed by the sun.



The SunStar system uses the sun's energy to heat your pool. The sun's heat is transferred into your pool by circulating pool water through the patented SunStar solar panel. In most cases, the pool's existing pump is used to circulate the pool water through the SunStar panels. The water is continually circulated through the solar panels until the pool has attained the desired temperature

## How does SunStar save me money?

Owning a SunStar system means drastically reducing or even eliminating expensive pool heating utility bills. Year after year, the savings continue while you extend your swimming season. SunStar solar pool heating is the most economical way to heat your pool. Zero operating costs, virtually no maintenance and the longest and most comprehensive warranty ensures the savings will continue for decades to come.

## When can I use my SunStar system?

SunStar solar heating systems are designed to heat your swimming pool using free heat from the sun. The SunStar system should be in operation during the daytime when solar radiation can be absorbed. A SunStar system equipped with an automatic controller turns on and off effortlessly whenever there is sufficient solar energy.

In some regions, the use of a SunStar solar heating system can lengthen your swim season to 12 months, while in other regions, SunStar can drastically extend your swim season. Regardless of geographic region, you will enjoy months of additional fun in the pool without the added expenses associated with other fossil fuel heaters.

## Is there any maintenance involved with SunStar solar heating systems?

A properly installed SunStar solar heating system should require very little, or no, maintenance. Check your SunStar solar heating system for proper operation at the beginning of each swimming season, particularly if it has an automatic controller.

### Does SunStar work in all climates?

SunStar systems are currently heating pools in all weather conditions around the world. SunStar systems provide year-round pool heating in warm climates and extend the swimming season in colder climates.

The patented individual tube design and mounting hardware can sustain 140 mph winds and are guaranteed with the most comprehensive warranty of any heater available.

### Does SunStar work when it is cloudy outside?

As long as it is daytime, the SunStar system absorbs solar radiation. Any solar radiation absorbed by the SunStar system is then transferred into the pool water. Therefore, even in cloudy conditions, the SunStar system will heat your pool. It is important to note that increasing the number of solar panels in your system will help absorb more heat. As with any heater, using a pool blanket is advisable, as it will reduce heat loss.

### Does my pool pump need to be on?

Yes, the SunStar system works by circulating water through the solar panels using your existing pool pump. Therefore, your pump must be in operation for sufficient water to flow through the solar panels.

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### Will SunStar cause my pool to change color?

The SunStar system is guaranteed not to discolor your pool due to deterioration of the solar panel material. SunStar panels are made of polypropylene with special ultraviolet inhibitor additives. Other manufacturers use cheaper grade plastics like EPDM or pure polypropylene, which are known to corrode and discolor pool water.

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### Can SunStar be used with my existing pool heater?

Some of our SunStar customers choose to use their SunStar solar heating system in conjunction with an existing pool heater. The SunStar solar heating system is designed to serve as the primary heat source for your pool water, while your existing pool heater serves as an auxiliary, or backup, heater. By using a SunStar solar heating system as your primary heat source, you can lengthen the life of your existing pool heater while minimizing the utility bills associated with heating your pool.

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### What happens if the pool water is too warm?

An automatic controller allows you to set your desired pool temperature. When the desired temperature is reached, your SunStar system will automatically turn off to maintain the desired temperature.

In some climates, the swimming pool can naturally reach uncomfortable temperatures during peak summer months. The SunStar system can dissipate excess heat in the pool water by circulating the water through the collectors at night.

### Where is the SunStar solar pool heating system installed?

SunStar solar collectors can be mounted on roofs or any area near the pool that provides the proper exposure, orientation and tilt toward the sun. Ideally, SunStar solar collectors should face south. However, an orientation up to 45 degrees east or west of due south will not significantly decrease performance as long as shading is avoided. SunStar systems can also be installed on the ground or on racks.

### Will a roof-mounted system harm my roof?

SunStar's individual tube design eliminates competitors' cumbersome and unattractive straps, which can damage roof surfaces. Instead, SunStar's solar collectors are affixed with Mounting Pads, which minimizes or eliminates roof penetrations.

### How big of a collector do I need?

The area needed for SunStar solar collectors to heat your pool depends on many factors. Depending on the pool's geographic location, roof orientation, pool configuration and your heating requirements, the surface area of a SunStar solar heating system can range from 50% to 125% of the pool's surface area.

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### Can I install a SunStar solar pool system myself?

Though we recommend a SunStar trained installer complete all installations, customers with basic plumbing skills can install a solar pool-heating system themselves. However, customers are advised to thoroughly read SunStar's installation manual prior to installation to ensure compliance with manufacturer directives.

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### Can I use SunStar to heat the water I use in my house?

While SunStar solar collectors are used around the world for heating swimming pool water, they are also used in many warm-climate countries to heat water for home use. Since SunStar solar collectors do not require glazing, insulation or metal components, they are much less expensive and lighter weight than other domestic hot water solar collectors. It is important to note however that SunStar solar collectors are not suitable for use during freezing weather or in areas which mandate that only copper pipes carry potable water. Be sure to check your local plumbing codes to ensure that you are in compliance.

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## Can I use a domestic hot water solar system to heat my pool water?

SunStar solar collectors are designed to heat large volumes of water (thousands of gallons) to relatively low temperatures (under 95 degrees Fahrenheit) by circulating the water at a relatively fast rate through the collectors. Domestic hot water systems raise a small volume of water (less than one hundred gallons) to very high temperatures (139 degrees Fahrenheit) by circulating the water slowly through the collector. These two different solar technologies are meant for different applications. A domestic hot water system cannot sufficiently heat a large body of water such as a pool to comfortable temperatures while a SunStar system cannot reach the very high temperatures needed for domestic use. In addition, domestic hot water systems are made of copper, which deteriorates quickly when in contact with the corrosive pool water. However, in some countries, SunStar systems are used to 'pre-heat' domestic hot water. SunStar solar collectors do not require glazing or insulation making them much cheaper and lightweight than domestic hot water panels.

## Can I use a metal solar collector to heat my pool?

Metal collectors are generally made of copper tubing mounted on an aluminum plate. The disadvantages of metal collectors are that they are more susceptible to corrosion and freeze damage, and the copper tubes may react with your pool's chlorine if the pH level falls below 7.2. An abundance of copper ions in pool water may form dark-colored precipitates, which can coat the pool's walls. Only draining, cleaning and repainting the pool can remove discoloration.

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## How is SunStar different from a solar pool blanket?

The greatest loss of heat from a pool occurs from its surface due to evaporation. By reducing this evaporation loss, solar pool covers or blankets are very effective in lengthening the swimming season. However, it is important to note that there is a key difference between SunStar solar heating systems and solar pool blankets. A SunStar heating system adds heat to your pool while a pool blanket helps to maintain the heat that already exists in the pool water. When used together, your pool water can be heated and maintained at your desired temperatures most efficiently.

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## How do I purchase a SunStar system?

SunStar solar heating systems are sold through our global network of dealers. Locate a trained, authorized dealer in your area to schedule a customized solar analysis for your swimming pool by going to: [www.solarenergyoregon.com/php/contact.php](http://www.solarenergyoregon.com/php/contact.php)

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## What does SunStar's SRCC rating mean to me?

SRCC is an independent, non-profit organization dedicated to the development and implementation of certification programs and national rating standards that establish durability and performance criteria for solar energy equipment. SRCC rates the product's ability to effectively heat your pool in the area you live.

With SunStar's SRCC rating, be rest assured that you are purchasing a solar collector with proven performance and tested integrity.