



# What Are Solar Collectors



Innovating Today's Solar Technology  
for the Future of Tomorrow



# SunMaxx SHW FAQ's

## **Is solar water heating a viable alternative to gas or electric heating?**

Solar should not be seen as an alternative to these heat sources, but rather a supplement. Solar cannot totally replace the need for these sources, as there are times where there is very little, if any sunlight. However, over the course of a year, a correctly sized solar system can provide 60-70% of your household hot water needs. Providing more than this is unadvisable, as too much heat will be generated in the summer.

## **How long will it take to recoup my investment?**

SunMaxx Solar Water Heaters are much more affordable than most other Solar Water Heaters available on the market today. For a household of 4, may not be much more than the cost of a new gas or electric heating system. Depending on your location (solar levels) and current hot water use, the annual gas or electric savings will vary. However, in a normal household that spends 25% of its annual electric bill on water heating, the full cost of the purchase may be recouped as quickly as 4-5 years. There is little doubt that you will save thousands of dollars, or more, over the lifetime of your SunMaxx Solar Water Heater.

## **Can the SunMaxx Collectors be used in cold weather climates?**

Yes. SunMaxx Collectors can be used in temperatures as low as -30 oC, although performance is greatly reduced in such extreme conditions. Good heat output is still achieved in mild, sub-zero conditions.

## **What happens if one of my Evacuated Tubes is broken?**

First, Evacuated Tubes are very tough, and not easily broken. But, if the worst should happen, evacuated tubes can be replaced very easily. They are inexpensive, and available through your local SunMaxx Dealer, or directly from SunMaxx Solar. While waiting for your replacement tube(s), your SunMaxx Evacuated Tube Solar Collector can continue to operate with several broken/missing tubes – however, the system's efficiency will be reduced during this time.

## **Will water be heated on a cloudy day?**

Yes. Although the output of the collector will be reduced on cloudy days, it is still able to provide a significant amount of heating. The cloudier the day, the more that you backup gas or electric heater will be used to maintain the proper temperature in your hot water. This type of automated system ensures that you never run out of hot water, regardless of your weather conditions.

## **Can I use a SunMaxx Solar Water Heater with my current system?**

Normally, yes. Simple retrofit valves can often be used to allow solar to connect to your existing cold water inlet. If your tank cannot accept the solar input directly, an additional storage tank can be installed to pre-heat the cold water prior to entering the existing tank.



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### **Are solar collectors noticeable on my roof?**

If only the collector is mounted on the roof they should be mildly inconspicuous. SunMaxx Solar Collectors are designed small and thin, and when flush mounted, look somewhat like a skylight on your roof, not a solar collector.

### **How do I protect my SunMaxx during sub-zero temperatures?**

If you live in an area where sub-zero temperatures occur, and you are planning to install a SunMaxx Solar Water Heater, then you must implement some sort of freeze protection. The easiest way to do this is use a controller that automatically starts the circulation process when the manifold temperature reaches a certain low level – keeping the manifold and system from freezing. Additionally, it is recommended that you install a closed loop system – where your collector loop contains a water-glycol solution separate from your potable water loop.

### **Will the SunMaxx solar collector be a fire hazard during hot/dry weather?**

No. Each component of the SunMaxx Solar Collectors are high-temperature rated and non-flammable, so even during periods of strong sunlight with the pumps off (stagnation), the system will not catch alight or even give off sparks. The majority of components are stainless steel, aluminum glass or glass wool. The manifold outlet should be fitted with a temperature relieve valve, which will prevent the manifold temperature from exceeding 99 oC/212 oF.

### **Can the SunMaxx Collectors heat water to a high-enough temperature?**

Yes. In good weather, the SunMaxx Collectors can bring water to their boiling point. Generally speaking, however, this is unnecessary, and the system should be designed to deliver a daily temperature rise of 25-30 oC/45-54 oF. Sizing a domestic solar water heater to bring your cold water up to about 60 oC/141 oC in a single day is not logical because the water is not used for one day – the next day the system will be dumping hot water and heat via the relief valve – this is a tremendous waste of heat and water. Please be sensible when sizing your solar water heater.

### **What maintenance is required for SunMaxx Solar Collectors?**

Under normal conditions and circumstances, no maintenance of the system is required. Due to the unique design of evacuated tube solar collectors, regular rain and windfall should keep them relatively clean and free of debris. If a tube is ever broken, it should be replaced at the earliest convenient time, but the system will continue to operate with this single tube missing (at a lower efficiency, of course).

### **Can SunMaxx Solar Water Heaters be used for large scale hot water production?**

Yes. SunMaxx Collectors can be connected in series or parallel to provide additional water heating capacity as needed. This is particularly effective for schools, apartments, resorts, hotels, offices, and other larger builders. In reality, there is no limit to the amount of hot water the SunMaxx Collectors can produce – simply increase the number of collectors as the hot water demand increases.



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## **Can I heat my swimming pool or spa with SunMaxx Collectors?**

SunMaxx Collectors are high-temperature collectors, and are therefore ideal for spas – as the volume of water to be heated is small and the temperature requirements are high. Swimming pools, however, have a much larger volume of water to be heated, and the temperature is relatively low (only a few degrees), which makes SunMaxx Solar Collectors less than ideal for heating pools. We do carry a line of solar collectors designed for heating swimming pools, however.

## **Are Evacuated Tube Solar Collectors more efficient than Flat Plate Collectors?**

This is a very subjective question, and is not easily answered. In some conditions, Evacuated Tube Collectors have a much higher efficiency and cost-effectiveness, however, in other conditions, Flat Plate Collectors are more efficient and cost effective. For additional information on this topic, please see our brochure (Evacuated Tubes vs Flat Plate Collectors).

## **Can I use SunMaxx Solar Collectors in a drainback system?**

Yes. The end port version of the SunMaxx Collector is well suited for drainback use. It is often asked if the solar collector will be damaged when the pump turns off and the system stagnates in good sun – the answer is no, it won't. The system is designed to handle stagnation. You do, however, need to ensure that the insulation on the piping close to the collectors is rated to withstand these stagnation temperatures.