Solar Hot Water

Frequent Answers and Questions

How often should I need to boost my solar hot water system?

A properly sized and functioning solar hot water system should collect enough heat over the course of a sunny day to service a typical sized household, even if the air temperature is low. Boosting should only be required during periods of excessive hot water use such as when you have guests to stay, or during extended periods of cloud. If you find yourself needing to hit the booster a little too often, it might be time to get the system serviced, or upgrade to a larger system.

How often does my solar hot water system need servicing?

It is recommended by the manufacturers to get your solar hot water system serviced once every 5-6 years to maintain the efficiency of the system.

What does a service involve?

A service of your solar hot water system usually entails:

- a check or replacement of the various valves,
- emptying and cleaning out the tank
- pressure testing the tank to check for small holes
- replacement of the sacrificial anode (a rod of metal that gets corroded by water impurities in order to protect the tank lining)
- refilling the ethylene glycol - the heat exchange fluid - in the collector panels, and
- removing any dirt from the surface of the panels.

Once these actions are performed, your solar hot water system should function with optimal efficiency.

How long should a solar hot water system last?

A solar hot water system should last around 15-20 years, maybe more, if it has been serviced at the recommended intervals over the course of its lifespan. The typical Solahart models that are common in Alice Springs come with a 10 year warranty on the collector panels and tank, with a 5 year warranty on parts and labour.

During summer, my solar hot water system dumps hot water onto the roof/garden. Is this normal?

Yes, this is normal for older systems without an over-temperature protection (OTP) system. As the water gets hot, the temperature and pressure in the tank build up and a valve opens to release some of the hot water, which relieves the pressure inside the system. This is necessary to stop the tank from exploding or the valves blowing off due to the pressure, but does cause a small amount of water wastage and places increased strain on the valves and other system parts. It can also be problematic if the water is not run off into a drain but instead pours onto you garden, where it can be a hazard to children or pets. Look at getting the water runoff diverted to where it can't do any harm. If this is a concern, you can also consider getting an OTP system retrofitted onto an existing unit.

What is OTP and how does it work?

OTP stands for Over Temperature Protection. It is an add-on to Solahart hot water units that slows down the flow of heat into the tank when temperatures rise to a high level. It consists of a 'Hartstat' valve which closes and stops the flow of glycol from the collector panels through the outer skin of the storage tank when the glycol temperature rises above 90C or so. This is accompanied by a small cylinder mounted on top of the water tank which acts as an overflow reservoir for the heat exchange fluid, allowing it to expand and fill the reservoir rather than dumping the glycol.

To be eligible for an Alice Solar City incentive, a solar hot water system must have OTP or a similar over temperature control system installed.

I've recently had a solar hot water system installed and the water isn't getting hot, even when the sun is out. What should I do?

You should contact the plumber who installed your system, and ask them to return and check the installation has been performed correctly. If not installed properly, solar heat gain can be impeded and the water in the system will not get hot, unless you turn on the electric booster. You should address this issue immediately. If the original installer is unable to look at it, you can alternatively contact one of the local Solahart service agents – currently Araluen Plumbing, SDA Plumbing or S&K Plumbing.

I don't ever run out of hot water from my solar hot water system, even when it's cloudy… Is this normal?

You should check the electric booster in the switchboard – it's probably been left on. If you are using hot water as normal and you still have hot water after a couple of days of cloud cover without having turned on your booster, then this is the most likely explanation. You should go to the switchboard and flick the switch (marked SHWS, HWS or a similar variant) to the off position. If this is inconvenient for you, consider installing a one-shot booster control switch inside your home, to make booster control a simple matter.

My solar hot water system doesn't work unless I turn the booster on. What can I do?

If the booster switch is in the off position and you are not getting hot water from your solar hot water system, there is likely a fault with the solar collector panels, and possibly the tank

itself. This may be able to be rectified by having a service from a plumber, or the unit may have reached its useable lifespan and could need replacing.

How do I know if my solar hot water system is running on the booster or not?

The easiest way to tell is to look in the switchboard – there should be a label under one of the switches marked SHW or HWS or similar, and this switch should be off. It's normally the only one that should be turned off.

The switches in my switchboard aren't labelled – how can I find out which one controls the booster?

If there is no label and you aren't sure which one is the solar hot water booster, there is a way to find this out by performing a quick test, which should be done a few hours after any hot water has been used. You may need two people to do this, unless your switchboard is next to your meter box. Make sure all the switches are on and all of your household appliances are turned off, and take note of the speed at which the meter dial is spinning. Then start running hot water out of the tap (or if you are not keen on wasting it, get someone to take a long shower). At some point, the electric booster will kick in and you will notice a marked increase in the speed of the meter dial. At this point, you can start flicking switches off one by one, until the meter dial reverts back to its original speed. The last switch you turned off will be the solar hot water booster – label it immediately so you don't forget!

I'm always forgetting to turn the booster off – is there anything I can do to make it easier for me to boost my solar hot water system?

You can install a one-shot booster switch (see below).

What is a one-shot booster switch?

A one-shot booster switch is a relay switch that can be installed to enable you full control of your solar hot water boosting. The switch is installed in a convenient place, and consists of an orange and a red LED light, and a push button in the centre. The orange light grows brighter as the hot water in the tank is running out. When you need to boost, press the button once and it will heat half a tank of hot water before turning off automatically. The red light will glow for the duration of the boost. This means you can never forget to leave the booster on accidentally.

How do I read the lights on my one-shot booster switch?

The orange light will glow dimly most of the time, and get brighter as the tank runs out of hot water. Once you push the button, the red light will begin to glow and the orange light will fade as the water in the tank heats up. Refer to xxx for more info.

Is there anything I can do myself to maintain my solar hot water system or ensure it works more efficiently?

- Getting a periodic service every 5 or 6 years is the best thing you can do for your solar hot water system. Other than that you can ensure that all of the pipes are lagged with insulation material to minimise heat loss, that the panels are clean, and that you test the pressure relief valves regularly by lifting the test handle and watching for water coming out of the relief pipe. The cold valve is typically located on the outside wall of your house. The hot pressure valve is usually located on the outlet from the tank on your roof – the risks associated with getting on your roof should be considered carefully if you are thinking of getting up there to test this yourself.