UberSolar
exceeding expectations

Following Your Installation

Guidance Notes

Thank you for purchasing an Ubersolar water heating system in replacement of your burst geyser.
It should provide you with many reliable years of service.

1 WHAT TO EXPECT AND RECOMMENDATIONS

Your roof orientation and inclination

Depending on your installation, orientation and to a lesser extent inclination of your roof, there can be variances in performance.

Deemed performance is based on laboratory conditions, due north orientation and 37° inclination.

Systems that are east of due north will perform better in the morning, with a falloff in performance in the afternoon.

Systems that are due west will perform badly in the morning, and only work towards 100% in the afternoon.

The Weather

Bright sunshine and cloudless days will provide the best performance.

The more cloud the less solar irradiation will be absorbed but the system will continue to work but at a lower rate.

On very rainy days performance will be negligible, (electrical back up will be required for hot water).

Rain all day
0%-30%

Some rain & cloud
30%-50%

More cloud than sun
50%

Sun some Cloud
80%-100%

Very sunny
100%+

Ambient air temperatures and wind can also affect performance

In winter, you will suffer more heat loss, particularly at night, from the lower ambient temperatures.

2 How Long Will It Take to Heat Water with Solar?

Normally the whole day from morning to mid to late afternoon.

About 7-8 hours is the normal heating time.

Do not expect the water to be hot by mid-morning, if all the hot water had been used the previous evening or in the morning (unless electrical back up is 'ON' –see below).

Solar performance is dependent on the weather.

In contrast, an electrical element will heat a tank from cold (16degC) to hot (60degC), in around 2 hours and 40 minutes for 150l, and 3 hours and 25 minutes for 200 litres (with 3kW elements).

3 Using Hot Water

How hot water in the home is used will affect the temperature of the water at the end of the day.

For example, if hot water is being used during the day for washing or cleaning, every time hot water is drawn from the geyser, cold water goes into the geyser and dilutes the temperature and as a result the end of day temperature will be lower than if no hot water had been drawn during the solar heating period, from 09,00 to 16,00 -18,00 (depending on the season).

4 Electrical Back Up

At the time of installation, we turn the thermostat to either 50degC or 55degC.

We recommend that you leave the electrical back up 'ON' unless you have a time clock installed at the distribution board.

There are a few reasons for this:

a) Not having hot water on demand is a major nuisance.
b) Inclement weather or poor heating days.
c) The solar system will always be putting hot water into the system (weather dependent), even with electrical back up on, raising the hot water temperature above the thermostat setting.

In other words, you still get the full benefit of solar and electrical savings even with the back up on.

5 Time Clocks

On an electric geyser, the question is frequently raised as to whether a time clock will save electricity, over just leaving the electricity on the whole time.

The answer is 'Yes', but only really significantly in winter, when heat loss at night, particularly between 23,00 and 05,00 results in the hot water losing temperature.

Heat loss from an electric or solar geyser during other seasons is minimal due to higher ambient temperatures. If you install a time clock on the solar geyser we recommend you;

a) Set it 2,5 hours 'ON' at 04,30 in the morning,
b) 2 hours 'ON' at 16,00 in winter.
c) If you require additional hot water after 20.00 a 3rd program of 2 hours on at 20.00 will guarantee hot water for later evening use.

Be advised that you will not be using electrical back up from the mains if the thermostat temperature has been reached.

It is probable that only in mid-summer that you can turn 'off' the electrical back up completely.

6 Performance

Installing an Ubersolar system will not provide you with more hot water than you had before from your electrical geyser unless you have increased the system size, as with 300l retrofit where an extra tank is installed.

You willnot save more electricity than the deemed performance output of the system, assuming good weather days.

Only expect a reduction in your overall electricity monthly kWh consumption relating to the solar geyser system.

With changing weather patterns, as are being encountered due to climate change, there may be more or less electrical savings on a monthly basis than one might expect.

7 It is NOT Working! – Simple Trouble Shooting

Ubersolar tests all the components prior to installation.

At the time of installation, your system is tested to make sure there are not any 'gremlins' that have crept in.

With only 1 moving part, a brushless motor, the system should work reliably for many years not requiring more than occasional maintenance, for example the cleaning of the outside of the glass (EVT's) tubes.

However, if you think it is not working you can do a couple of simple checks.

Is the pump working?

Unfortunately, this will require you to go into the roof attic, or where the geyser is located.

Do this during the day when the sun is out.

a) Put your hand on the pipe leading from the pump to the solar collector. You should be able to feel the water moving through the pipe. Alternatively, you can put your hand on the pump, and you should also be able to hear it.

b) If you have a system with a Delta T Controller, (temperature differential controller) visually check the 2 green LED lights are on. The Delta T controller will be located close to the end of the geyser where the hot water and pump are located.

c) Both lights will be on when the temperature in the solar manifolds is above 35degC and at least 10degC warmer than the hot water in the tank. One light will go off when the temperature in the tank has reached 75degC.

Still Not Convinced?

Turn off the electricity to the geyser electric back up on the distribution board in the morning.

In the late afternoon, test the temperature of the hot water at the tap. Assuming that the sun has been shining during the day, and hot water has not been used extensively for washing, the water should be hot.

If necessary, do this for two days in a row.

It is extremely unlikely that the pump or the PV panel has failed.

Note: a 5 kW element is normally used for 300l as otherwise it would take too long

8 Alarm! Steam or Hot Water on the Roof

Ubersolar systems have vented manifolds which, when very hot may result in either steam being seen coming out of the vents, or even occasionally 'squirts' of hot water.

This is deliberate, and absolutely not a problem. Indeed, it is one of the unique features that allows very powerful systems to be installed.

In protracted periods of 'wet stagnation' when no hot water is being taken from the geyser, (for example when away on holiday) the water in the solar manifolds may reach boiling point by mid-morning, and steam will be seen venting. By the evening the solar manifolds will have cooled down again, with the venting process to recommence the next day.

The water in the manifolds is automatically topped up by the autofill cistern.

When away on holiday, we recommend that the cold water mains to the home is not turned 'off' as this will stop the autofill mechanism being filled.

If the mains cold water is turned 'off' for a period of more than 4 weeks, please ensure that when the cold water is turned 'on' again, please do so when the EVT's will be cooler than during the middle of the day, for example in the evening or at night.

9 Maintenance

Other than periodic washing down of the EVT's every few years, the system does not need any maintenance.

10 Breakdowns

With only 1 moving part, being an impeller in a brushless motor, there is very little that can go wrong. You should enjoy many years of trouble free performance.

11 EVT's breakages from storm damage

In the event of storm damage that results in a broken EVT, water may leak onto the roof from the tube or from the solar manifold. A broken tube maybe obvious, or the glass may become milky in colour (indicating that the vacuum has been lost).

What should you do?

To stop water leaking onto the roof you need to turn 'off' the water supply to the autofill cistern in the roof, (or if a flat roof on the frame).

a) Turn the black lever valve 'off' connected to the 'cold water' pipe going to the geyser with a 'T' off to the autofill cistern (located in the roof).
b) Note that leaking onto the roof may continue for 15 to 20 minutes and then stop.
c) (This will not damage the system, even if it goes into a dry stagnation state for weeks)

As information, the solar system will continue to operate but the efficiency will drop by at least 50%.

Call Ubersolar for a replacement EVT.

12 Leaking geysers

Some 300,000+- geysers burst in South Africa each year.

In the event that your geyser develops a leak it will need to be replaced.

The first signs of a burst geyser are likely to be:
Water coming out the 50mm overflow pipe protruding through an outside wall near the geyser. In your case a drip tray will have been fitted (if not installed previously).

What should you do?

1. Turn on a hot water tap full – this will reduce some pressure in the geyser
2. Next turn off the mains cold water feed into the house.
    a. This will generally be outside, if you don't know where it is, we recommend you that you find out. There will nearly always be a 'shut off' valve at the water meter.
3. Then climb into the roof and turn the 'lever shut off valve' on the 'coldwater' feed to the geyser.
    a. This will be close to the 'coldwater' inlet/ drain cock of the geyser
4. Then, turn off the electrical feed to the geyser element either at the isolator switch, which will be about 1,5 metres from the geyser, or flip the geyser circuit breaker off (down position) at the distribution board.
5. You can now turn the 'coldwater' feed into the house back 'on', giving you cold water at your taps (but not into the geyser).

A burst geyser will not damage your solar system.

As information when the plumber comes to replace the tank, please advise them to turn 'off' the following 3 black lever valves;

a) Connected to the pump, (on the same side as the hot water outlet)
b) Connected to the return loop connected to the cold water main inlet, about 500mm from the coldwa ter inlet and drain cock
c) Connected to the cold water pipe going to the geyser with a 'T' off to the autofill cistern (located in the roof).
d) Temporarily disconnect the wiring to the pump (12V DC)

When the plumber has installed the new geyser, he can reconnect all the fittings to and from the geyser, as it is currently installed.

Turn 'on' all the 3 black lever valves. (The 'on' position is when the lever is in line with the piping, and 'off' is at 90 to the piping), and reconnect the wiring to the pump.

13 General Plumbing Problems

Occasionally plumbing problems occur in the home after an installation of a solar water heating system.

However, it is extremely unlikely the problem is in any way related to the solar system, as we do not alter the existing plumbing piping unless requested to do so.

Further, before the installers leave an installation, the whole system is put under pressure and any leaks show immediately.

If Ubersolar is called out, and the fault is in the solar system, its piping or connections, there will be no charge. If, however, the fault is a general plumbing fault a call out charge will be made.

Examples of such incidences of general plumbing faults, are:

a) Leaking pipes that are old and split.
b) Faulty or broken thermostats, which results in the geyser element continuing to heat the geyser until the Temperature Pressure Safety Valve (TP) opens at 92-97degC, with the result that water will flow out onto the roof through either the TP valve pipe or from the drip tray outlet onto the roof.
c) Dripping from the pressure control valve, connected to the mains cold water inlet
d) Leaking lever valves.

We appreciate how stressful plumbing leaks or burst geysers are.

We are here to help, despite not being general plumbers, but solar water heating manufacturers and installers.

Almost certainly we will be able to talk you through what needs to be done. Please call us for advice.

If the problem is our fault, (it can happen), as advised before we will fix it free of charge.

CONTACT US

The telephone numbers on www.ubersolar.co.za are kept up to date, and can be called during normal daylight hours 7 days a week.

An additional emergency number is 076 460 0269