



Advisory regarding water savings for high pressure solar water heater systems

In light of the ongoing drought crisis and residents' continued water saving efforts, this advisory provides owners of solar water heater systems with practical suggestions on reducing water loss through overheating that may occur as a result of lower hot water consumption.

All hot water cylinders (including electric, solar and heat pump storage tanks) drip water from time to time through the overflow valve. This is a safety feature - when water in the tank is heated it expands and the overflow valve allows water to be expelled from the pressure-reducing valve. On very hot days the water loss may be as much as 10-15ℓ a day. In almost all hot water systems some water is lost in this way, however, evacuated tubes systems are particularly prone to overheating in Cape Town's climate and thus to water loss. There are a few ways to prevent or minimise this loss:

Use more hot water (instead of cold water)

As a result of water restrictions, many residents are not using much hot water. This may cause their solar water heaters to overheat. By turning hot taps on more often (in place of the cold taps) or connecting your washing machine to the hot water pipes, the flow of cold water into the solar geyser is increased which helps to cool it down.

Turn off timers and backup electrical heating

Turning off the timer or temperature gauge which controls the electrical backup for solar geysers means that the water has time to cool at night or on cool days. This will reduce overheating and associated water loss, but may also reduce availability of hot water during these times.

Cover the solar collector panel

If you are away and do not expect to use your solar water heater for a time, or wish to deactivate it, a cover can be placed over the solar collector panel. This can take the form of reflective sheeting (e.g. Sisalation) or a dark tarpaulin or blanket. Some of the City's accredited service providers are selling covers which can be used for this purpose. Make sure that the cover is securely fastened so that it does not blow off in the wind.

Water-saving expansion tanks

A more permanent solution for preventing water loss is to fit hot water systems with a small expansion tank. When pressure in the system builds up, water is pushed into the expansion tank rather than through the overflow valve. When the pressure in the geyser drops again, the water in the expansion tank goes back into the geyser. Ask your installer if they can install an expansion tank on your system. This saves a few litres per day per geyser. This is common practice in Europe but please note, however, that these expansion tanks do not have SABS certification.

Problems with the installation

Sometimes the water loss may be caused by a fault or broken part in the system. Ask your installer to check if the following issues may apply to your system:

- The system could be over heating due to having either too many tubes for the size of the tank (for evacuated tubes systems) or if the panel is too large (for flat plate systems).
- It could be that the pressure-reducing valve is faulty and is allowing water to be expelled when it shouldn't be. If so, it will need to be replaced.
- The thermostat or controller may be faulty or incorrectly set, causing overheating.

We thank you for helping us to keep Day Zero away.