



USER GUIDE

Congratulations! You have purchased an Imagination Solar Ltd (ISL) hot water system. We hope that our system will provide you with many years of free solar hot water.

The solar system is expected to provide most of your hot water between April and September, with some solar hot water provision throughout the year.

Solar panels to heat domestic hot water have been in use in the UK for over 30 years. The Imagination Solar Ltd system has been refined to give you a high quality, effective system at an affordable price.

The system also includes a solar electric (PV) panel, used to power the pump. So you have a completely independent system that requires no mains, fossil-fuelled power to run.

Main Components of your Solar System

Your solar system comprises:

- A solar collector to collect heat from the sun
- A pump to push water through the solar system
- A control unit to manage the working of the system
- A hot water cylinder to store the solar heated water
- A solar electric (PV) power supply for the pump unit, as standard. Or mains power supply if specifically requested instead of solar PV

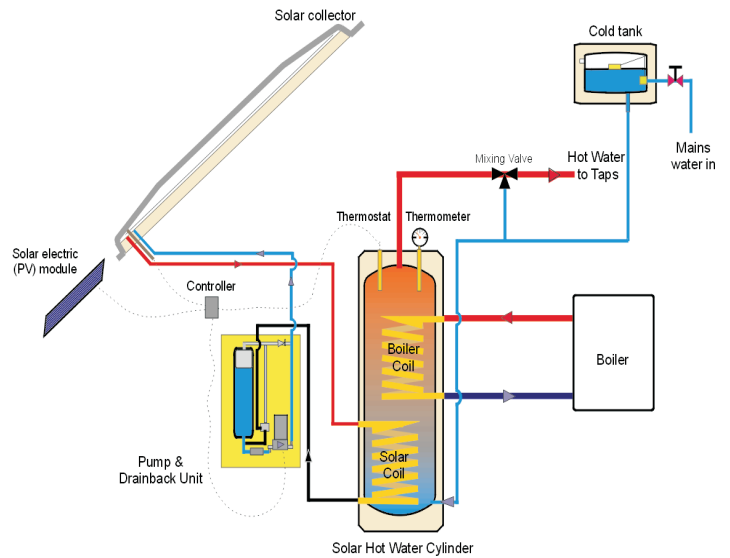


Fig 1. Our standard solar system linked to a conventional boiler

Principles of Operation

Your solar system collects and transfers heat using a closed water circuit filled with ordinary tap water (and antifreeze in some cases).

When a sensor on the solar collector detects there is enough sunlight to provide heat the pump is switched on. The solar electric (PV) panel, if fitted, provides the power to the pump.

Water is then pumped through the solar panel and collects heat from the sun, which is then transferred to the hot water cylinder via a heat exchange coil.

When the pump is on, the green light on the controller (fig.2) will start to flash and the water in the drain back vessel will drop by 20-30 cm. The pump will stay on until the hot water cylinder is up to temperature or if there is not enough sunlight or at night.

When the pump switches off, solar water 'drains-back' from the panel into the drain-back vessel, and the water returns to its original level. Thus during freezing temperatures there will be no water in the solar panel so no antifreeze is needed and on a very hot day water will drain out of the panel if there is a risk of it boiling (there is a maximum temperature cut-off point at 80°C).

The solar panel is designed with 'low-flow' technology, meaning that water flows through the solar circuit at a low rate. This low flow rate enables the water in the solar circuit to heat up by 30°C almost instantly, on a sunny day.

Understanding the Control Unit

- The pump should not be on at very low light levels. If this is occurring contact your installer, as this indicates there is a wiring problem
- The green light (fig.3) will show continuously when there is power to the control unit, but the pump is not yet activated
- If there is enough daylight the pump will start after 2 minutes and the green light will start flashing (both mains and PV)
- The yellow light comes on when the hot water in the cylinder reaches 60°C
- The red light will come on if the cylinder reaches the maximum temperature of 80°C and the pump will switch off

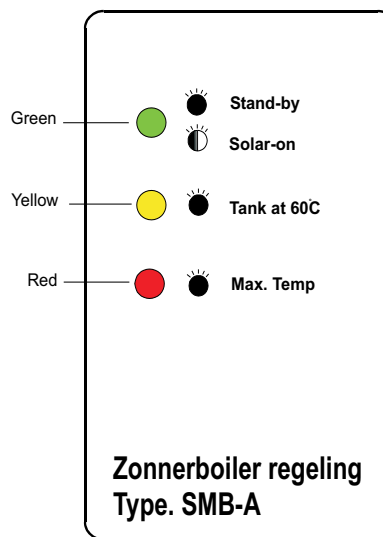


Fig.2. Control Unit

Cleaning & Maintenance

There is no planned service required for the ISL system, and very little maintenance necessary (unless antifreeze is required, or a leak occurs in the solar circuit).

- Periodically check that the green light is flashing during a sunny day
- The casing for the control unit and pump can be cleaned with a damp cloth The solar panels are self cleaning
- If your system is not working consult the installation guide on our website or call your installer for technical assistance

Safety

Water in the solar system can get up to 80°C, which could cause scalding. If your system is not fitted with a thermostatic mixing valve, as we recommend, be careful and check water temperature for children, and the elderly to prevent scalding.

The system will automatically shut down if the temperature inside the cylinder reaches 80°C, so you can leave your solar system working if you are away from home reassured that there will be no problems associated with overheating. All ISL cylinders are also either vented or fitted with a pressure relief valve.

Getting the most from your Solar System

- On clear sunny days you will normally have a full tank of hot water, so these are the best days to do washing or have a bath in the evening for instance
- Water in the hot water cylinder will stay hot for more than 48 hours due to insulation on the cylinder
- Make sure any boiler connected to the hot water cylinder is set to come on as late as possible. This will top up the solar hot water, if required, and stop fossil fuel energy being used to heat water that could be heated by the sun

Variations: ticked if applicable

- Hours run counter: this device records the total number of hours the solar system is on. If you keep a record of the hours run, Imagination Solar would be most interested to see monthly figures
- Remote digital readout: A digital display of the cylinder temperature that can be mounted away from the hot water cylinder
- Anti-freeze: If the drain-back unit is installed in a cold place or if no gradient was available for the drain-back facility to work, then anti-freeze will need to be added to your drain-back unit when you top it up with water. This must then be checked every 3 years.
- Power supply: mains power instead of solar electric PV

Useful Information

Please contact the installer should anything go wrong or stop working.

Installers Name:

Tel No:

Installation Company:

Date installed:

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RENEWABLE ENERGY GRANTS



CLEAR SKIES DOCUMENTATION

COLLECTOR SPECIFICATION

Manufacturers name	ATON
Serial number	C2.6/7
Year of production	
Country of production	The Netherlands
Glazing formula	Flat plate
Insulation method	25mm polyurethane foam + 25mm glasswool
Gross collector area	2.7m ²
Max. Stagnation temp (100W/m ² & 30°C)	185°C
Max. Operation pressure (bar)	6 bar
Fluid content	0.7 litres
Weight (kg)	25

CYLINDER SPECIFICATION

Manufacturers Name	
Serial number	
Year of production	
Country of production	UK
Max. operation pressure of secondary	
Physical weight of store when empty	
Physical dimensions of store without insulation	
Number of internal heat exchangers	
Max. operation pressure within each primary heat exchanger	
The secondary volume normally heated by each heat exchanger	
Fluid content of each heat exchanger	
Area of each heat exchanger	

Note for installers: info above to be copied from cylinder label provided by manufacturer



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