

FAQ

Installation

- Do I need planning permission to install solar systems?
 - Planning permission is not normally required; the collectors do not alter the line of the roof and generally come under permitted development. If you live in a conservation area or the building is listed, you will have to get advice from your local planning office. Also, if the collectors are mounted on the front facade or impacts a neighbour's view, it would be advisable to contact the planning office.
- What guarantees do you supply?
 - Our solar collectors carry a 10 year warranty, hot water cylinders 5 years and all other components carry a 1 year warranty. The system itself is guaranteed for 2 years although it should last for 20 - 30 years.
- How long will the installation take?
 - For a normal system with a new hot water cylinder and solar collectors, we would expect the installation to take two days.
- What maintenance is involved?
 - Our solar systems are designed to be very low maintenance, drain-back systems are the lowest maintenance: the solar fluid level should be checked periodically and the fluid replaced after 10 years.
 - Pressurised systems have a pressure gauge which should be monitored; also the fluid in the collector is subject to 'stagnation' temperatures of up to 200°C which can eventually degrade the fluid so it needs to be replaced earlier.
 - Our hot water cylinders are made of copper and as such have no anodes to replace.
- I don't have a roof that faces south, does that matter?
 - Not necessarily. Solar thermal systems are surprisingly tolerant to variations in their mounting aspect and pitch. [Click here for a graph.](#)
 - It is possible to fit collectors on east and west facing roofs and control between them as the sun moves throughout the day.
 - If you do not have any pitched roofs facing even remotely south, collectors can be mounted on frames on flat roofs or even on vertical walls.

Systems

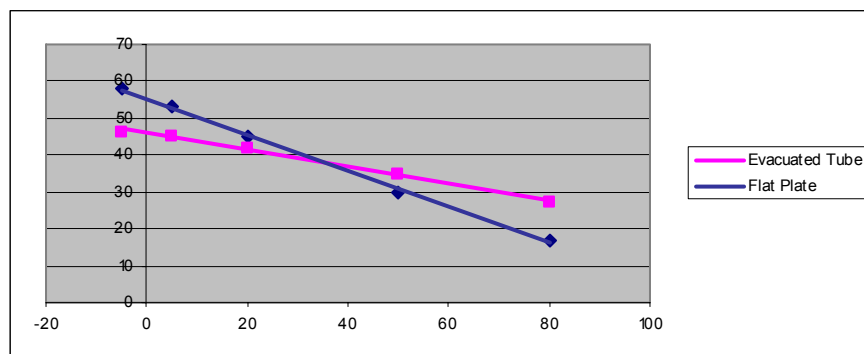
- What's the difference between a pressurised and drain-back system?
 - The system must be able to withstand extremes of temperature. In the winter, freezing fluid could cause damage to the collector and pipework. In the summer, temperatures of 200°C are possible which would cause the fluid to boil and cause excessive pressure. The two systems cope with these issues in different ways.
 - Pressurised systems hold the fluid at a pressure which increases the boiling point of the fluid. They incorporate a pressure vessel which allows the fluid to expand as it heats up without increasing the system pressure.
- I've read that 'low-flow' systems are good, is that true?
 - Low-flow systems use small bore pipework and pump the fluid slowly through the collector. It is claimed that the fluid picks up more energy from the absorber because it flows slowly. What is really needed is 'variable flow'. In this way the flow rate can be adapted to suit all weather conditions. If the flow rate is too low, the collector plate will not be cooled adequately and hence maximum energy will not be extracted. The pipework must be large enough to allow the peak flow rate in full sunlight. Normally 15mm pipework is suitable for most domestic systems. Our systems control the pump speed proportionally to the temperature difference, hence maximising heat transfer.
- I've got a combi boiler, can I still have a solar system?
 - Solar systems rely on being able to store the energy collected during the day for use when it is needed. It is essential therefore, to fit a hot water cylinder. Most new combi boilers can be supplied with solar pre-heated water and work on an instantaneous basis as normal. Older combi boilers, which cannot accept pre-heated water can still be used, but they would be configured to provide back-up heating to the hot water cylinder in the same way as a normal (non-combi) boiler.
- Aren't direct systems more efficient than indirect systems?
 - A direct system circulates the water from the hot water cylinder through the collector. This has the advantage that only one heat-exchange process takes place and so the system is more efficient. The disadvantage is that the collectors can have problems

ms due to limescale build up in the collectors. Also, as it is water and not antifreeze in the collector, it may freeze in winter.

- Can I get a system to heat my house as well as the hot water?
 - If your house is already very well insulated and energy efficient, solar energy can make a useful contribution to the space heating requirements. These systems are generally much more popular in Scandinavia, where the housing stock is traditionally very energy efficient. Typically a roof would have around 10m² of collector area and a large storage cylinder of maybe 800litres. A secondary, back-up heating supply would be required as a supplement.
- I want to heat my swimming pool but don't want it to cost the earth. Can solar energy help?
 - Solar collectors specifically designed for swimming pools are available. Please call for details.
- Is it possible to run the pump from a photovoltaic (PV) panel?
 - It is possible to add a photo-voltaic solar collector to run the controller and pump for a solar thermal system. The advantage is that no mains electricity is required. The photo-voltaic collector, battery and controller can cost almost as much as the solar thermal collector they are attached to. The amount of energy they produce, in comparison is tiny. It is for this reason that we generally recommend that a low-power solar pump is driven from the mains supply unless the unit is mounted remotely. Homeowners can choose to buy their electricity from a renewable source. See our [links](#) page for suggestions.
- What happens when I go on holiday in summertime?
 - The system can be safely switched off. The fluid will drain into the drain-back reservoir and the collector on the roof will simply get hot. They are designed to be able to tolerate high temperatures when not actually operating.

Solar Collectors

- Should I go for a roof mounted or roof integrated design?
 - Generally, roof mounting the collectors is the best option when fitting to an existing roof. Mounting is much simpler and there is no need to disturb the roof covering. Our roof mounting collectors are low-profile and do not protrude beyond the roof covering more than 100mm. In a new-build situation, the collectors can be integrated into the roof covering, the cost of the collector can then be offset to some extent by the cost of the roof tiles that are displaced.
- I've heard that evacuated tubes are more efficient than flat plate collectors, is that true?
 - Not always! By referring to the graph, it can be seen that evacuated tubes are indeed more efficient at temperatures above 40°C. At temperatures lower than that, a flat plate collector is more efficient. In addition, an evacuated tube collector of a given output will generally be much more expensive to buy than the equivalent output flat plate collector.



- Won't the panels freeze in winter?
 - Because the fluid drains out of the collector into an insulated reservoir when the pump is not running, there is no fluid in the collector to freeze. Solaris systems are additionally filled with anti-freeze as an extra precaution.