

LaZer2

DOMESTIC SYSTEMS



harnessing the power of the sun to provide you with a

clean, free & reliable

heat source

designed, developed and built in Britain, for Britain

sunshine not required

high performance even in cold and windy conditions

The LaZer2 Solar system will:

- Provide 60-75% of your domestic hot water
- Radically reduce your water heating bills
- Heat your water in summer and winter
- Integrate with all types of heating system
- Require no scheduled maintenance
- Reduce CO² emissions by <500kg/year

LaZer2 Solar System Overview

The LaZer2 Solar System is the result of extensive research and development. It has been tested alongside other leading solar hot water systems to ensure that it offers the highest level of performance and the maximum amount of hot water. Designed and built in the UK, the LaZer2 Solar System is based on advanced yet proven technology and has been optimised to work in climates like those of Britain. The compact, stylish LaZer2 Solar Collectors incorporate the most advanced vacuum tube technology, allowing them to heat your water when there is no direct sunshine and it is freezing outside.

The LaZer2 Solar System works with all types of domestic hot water system and will provide free hot water for at least 25 years. A system usually takes a day to fit, requires no scheduled maintenance and no user input once installed. By using a LaZer2 Solar System to heat your water you will save money and help the environment in the process.

How to get a LaZer2 solar System

Once we have answered your initial questions a survey is carried out to ensure you get the most suitable system and to confirm the total cost. When we have received your order your bespoke cylinder is manufactured and we normally arrive within 3-4 weeks to fit your system. You can then take advantage of free hot water for the next 25 years!

Grants & Financial Help

The LaZer2 Solar System is designed and built by a fully accredited manufacturer and is UK Government approved. From April 2011 the Renewable Heat Incentive (RHI) will guarantee long-term payments to installers of solar thermal technologies, with the rate of return likely to be 6%. As a further incentive a fully fitted UK LaZer2 Solar System is normally subject to only 5% VAT (standard rate 17.5%). There are 100% capital allowance schemes as well as interest free loans available for businesses.

LaZer2 Solar System Features & Benefits

LaZer2 Solar Collector

Vacuum Tubes

Highly efficient, they work as effectively in cold, windy conditions as they do when it is hot

Horizontally Mounted

Maximises the amount of energy that can be absorbed by automatically compensating for changes in the angle of the sun

Curved Collector

Ensures a constant aperture to the sun, increasing energy input compared to systems with flat collectors

Direct Water Manifold

More efficient than an in-direct 'heat pipe' manifold

TD9 Digital Controller

SMARTlogic

Allows the panel to start heating your cylinder earlier and for longer each day

SAFElogic

Protects the system from overheating

LaZer2 System Cylinder

Double Insulation

Minimises heat loss

Blender Valve

Prevents scolding and conserves your hot water supply

Supplier Details

SolarUK Ltd is the leading British Solar Thermal Research & Development company and manufacturer of the LaZer2 system. We don't use sales gimmicks, or high-pressure selling techniques, instead we offer every customer the highest quality products and service at the best possible manufacturers prices. SolarUK can supply systems for anywhere in the world.

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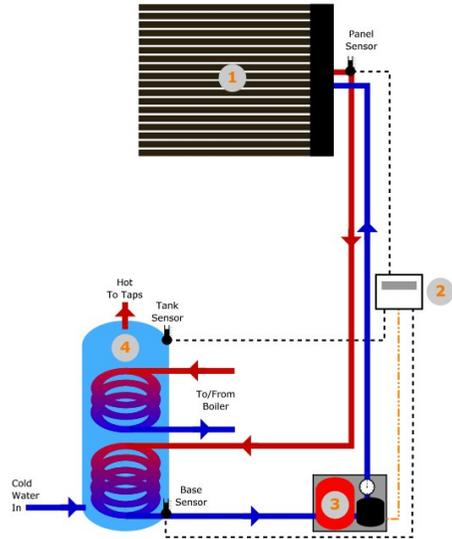
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How The LaZer2 Solar System Works

The LaZer2 Collectors work just like your existing heat source, except they are powered by free, clean solar energy rather than an expensive, dirty, carbon fuel. The LaZer2 Solar System is your primary heat source. Your boiler, stove or immersion heater will automatically raise the water temperature if required. Even when solar energy levels are low the LaZer2 system will add some heat to the water, so your existing heat source will do far less work.

The system comprises of four main components: LaZer2 Solar Collectors, TD9 Digital Controller, Circulation Module and a Hot Water Cylinder.



1. LaZer2 Solar Collectors

The 93% efficient LaZer2 vacuum tubes are ideal for cooler climates such as Britain's, as they work virtually as effectively when it is 0°C or 30°C outside. The LaZer2 vacuum tubes have a 25-year warranty, as there is no glass to metal seal that can fail.

The collectors incorporate horizontally mounted vacuum tubes with a curved collecting surface, automatically compensating for varying roof pitches and the change in the Sun's angle throughout the year. Solar energy penetrates the glass and is absorbed by the specially selected coating on the collecting surface. Once absorbed the energy is trapped inside the tube by the vacuum. A unique aluminium heat-sink transfers the trapped energy to the advanced internal manifold, which directly heats the water, minimising energy losses.

A LaZer2 collector will perform better throughout the year than systems with flat-plate collectors, vertically mounted vacuum tubes or 'heat pipes'.

2. TD9 Digital Controller

The TD9 Digital Controller is the 'digital heart' of the system. It uses sensors to compare the temperature of the water in the collector with that in the cylinder. When the collector is 3°C warmer than the cylinder, the solar pump switches on and the water circulates through the system, transferring heat to the cylinder. If the temperature difference is below 3°C the pump turns off to stop the water in the cylinder being cooled.

The TD9 incorporates SMARTlogic to allow the system to start heating the cylinder earlier and for longer each day. SAFElogic prevents your system over heating during periods of low water usage.

The controllers LCD Display will continually show three temperatures; water entering the collector, water leaving the collector and water in your cylinder.

A 'Solar Pump' indicator illuminates when the circulation pump is operating and your system is producing hot water.

A 'Tank Hot' indicator illuminates when the water in the cylinder reaches the predefined temperature (e.g. 55°C).

The installation team will configure the TD9 Digital Controller when fitting the system and will select the optimum settings for your system. Once this is done no further user input is required.

3. Circulation module

The Circulation Module is made up of the following components:

Pressure Gauge - Shows the pressure within the system

Flow Meter - Indicates the flow rate within the system

Pump - Circulates water around the system

Expansion Vessel - Allows for changes in the water volume inside the system

Filling Loop - Allows the system to be filled

One-Way Valve - Prevents thermo-siphoning during cold periods

4. Hot Water Cylinder

The type of cylinder you need depends on your domestic water heating system and hot water usage.

A typical LaZer2 Solar System will incorporate a bespoke twin-coil cylinder; the top coil for the gas boiler circuit and the lower coil (with twice the standard surface area) for the solar circuit.

All of our cylinders are built to order and to reduce heat loss will have double the usual insulation.

An immersion heater is fitted as standard. If required a Blender Valve can be installed to regulate the temperature of water reaching the taps, preventing the risk of scalding as well as helping to conserve your hot water supply.

Installation & Maintenance

The LaZer2 Solar System is designed for easy installation and planning permission is not normally required. The low-profile Collectors clip into a unique roof-mounting system that avoids roof leaks and keeps all pipe-work hidden from view. The Circulation Module will be fitted close to your hot water cylinder and will integrate seamlessly with your existing hot water system. The TD9 will be placed to allow you to monitor the system.

The LaZer2 Solar System has been designed and manufactured in Britain to the highest of European standards (EN12975-1). Once installed no scheduled maintenance is required. The non-toxic anti-freeze and corrosion inhibitor will provide protection for the life of the system. The extra smooth glass will even clean itself.

LaZer2 Solar Thermal Collector Specifications

Collector Type	LaZer2 Direct Water
Absorber Area	0.80 m ²
Aperture Area	0.93m ² (1m ²)
Gross Area	1.35m ²
Total Length	2110 mm
Total Width	615 mm
Total Depth	104mm (manifold 113mm)
Total Weight	43kg
Operating Pressure	< 4 bar
Design Life	> 25 years
Vacuum Tube	High-borosilicate Glass
Tube Diameter	58 mm
Tube Length	1960 mm
Vacuum	P = 5 x 10 ⁻² Pa
Tube Strength	Tested to withstand a 25mm hailstone
Absorber	Wavelength Selective Coating AL-N/AL
Efficiency	>93% (optimum)
Tube Warranty	25-Years
EN/BS standard	EN12975 - 1

