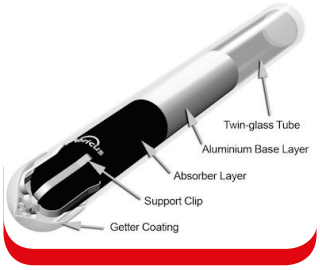
Environmentally-Friendly Technology That Can Save You Money

Domestic hot water is the second-highest energy cost in the typical household. In fact, for some homes it can be the highest energy expenditure. Solar water heating can now reduce your domestic water heating costs by as much as 65%.

3 different types of solar water heaters are available, depending on site conditions and budget.

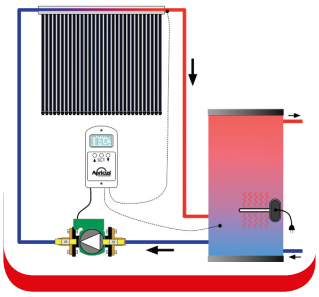


Thermo Syphon

Evacuated Tubes are the heart of the Genelec Solar Collector, responsible for absorbing sunlight and converting it into usable heat. The Thermo syphon system is the simplest and cheapest method of heating water. Cool water flows from the upper tank, into the glass vacuum tubes, and moves by gravity to the bottom. While the cool water is in the tube, it is heated up, and then moves back up the tube, into the top tank, by convection.

Tube Design

The tube is essentially two glass tubes that are fused at the top and bottom. The inner tube has a solar absorbing coating, and the space between the two tubes is evacuated to form a vacuum.



Evacuated Tube

Genelec evacuated tube solar collectors convert energy from the sun into usable heat. This energy can be used for hot water heating, pool heating, space heating or even air conditioning.

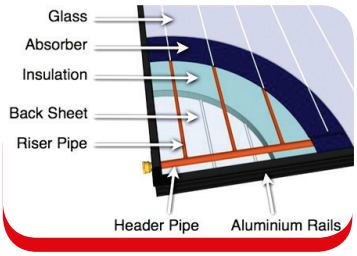
	GE-10	GE-20	GE-22 *	GE-30
Length	2005 mm / 78.9"	2005 mm / 78.9"	2005 mm / 78.9"	2005 mm / 78.9"
Height	136mm / 5.35"	136mm / 5.35"	136mm / 5.35"	136mm / 5.35"
Width	796mm / 31.34"	1496mm / 58.9"	1636mm / 64.4"	2196mm / 86.45"
Peak Output **	650 Watts / 2,210 Btuh	1,296 Watts / 4,422 Btuh	1,425 Watts / 4,862 Btuh	1,944 Watts / 6,632 Btuh
Aperture Area	0.94 m^2 / 10.1 ft^2	1.88 m^2 / 20.23 ft^2	2.07 m^2 / 22.3 ft^2	2.83 m^2 / 30.46 ft^2
Gross Area	1.59 m^2 / 16.95 ft^2	3 m^2 / 32.3 ft^2	3.28 m^2 / 35.29 ft^2	4.4 m^2 / 47.4 ft^2
Gross Dry Weight	35 kg / 77 lbs	63.5 kg / 139.8 lbs	71.3 kg / 156.8 lbs	95 kg / 209.44 lbs
Fluid Capacity	310 ml / 10.5 fl oz	550 ml / 18.6 fl oz	600 ml / 20.3 fl oz	790 ml / 26.7 fl oz
Ideal Flow Rate	1L/min / 0.26 USG/ min	2L/min / 0.53 USG/ min	2L/min / 0.53 USG/ min	3L/min / 0.8 USG/ min

Flat Plate Solar Collector

The Genelec flat plate solar thermal collector is suitable for residential or commercial solar water heating projects.

The flat plate collector features a low profile design (80mm profile), which combined with ultra-lightweight melamine foam insulation, makes it one of the lightest flat plate panels per m^2 on the market.

The TINOX Energy Aluminium absorber sheet absorbs up to 95% of available sunlight converting into usable heat for hot water production.



While the basic flat plate design has been around for a long time, and is the most widely used type of solar thermal panel for domestic hot water supply, not all collectors are designed and made alike.

Choice of material and design aspects can greatly affect not only the solar thermal performance but also the reliability when operating in many varied environmental conditions.Genelec has chosen only the highest quality materials to ensure reliable, efficient operation and collector longevity.

The diagram below shows the basic construction of the collector.

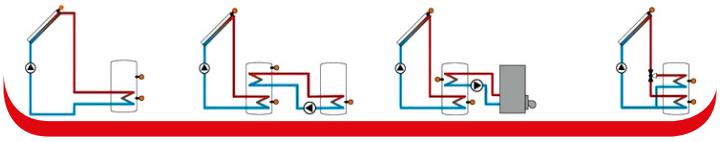
Pump Stations

Active solar hot water systems require a circulation pump, and depending on the system format may also include a flow meter, temperature gauges, air separator, fill and drain valves and other components. Pump stations incorporate all these components into a pre-engineered packaged system, improving reliability and greatly simplifying the installation process.

Solar Controllers

In a solar thermal system, the controller measures the temperature of the solar collector and one or more points in the storage tank and then powers the circulation pump(s) and motorized valve(s).

Depending on the design of the system and requirements of the project owner, the controller can range from a very basic unit with no display screen or data output to a more complex unit that incorporates a display screen, data-logging and even remote monitoring through the internet. Genelec offers a range of controller options suitable for residential and commercial projects.



Hot Water Tanks

Solar hot water system normally incorporate a solar hot water tank that stores the solar heated water. Depending on the system design a single tank may incorporate both solar and auxilliary heating (gas, electric etc) or a dedicated solar tank may supply pre-heated water to a second tank that is heated by tradiational energy sources.

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