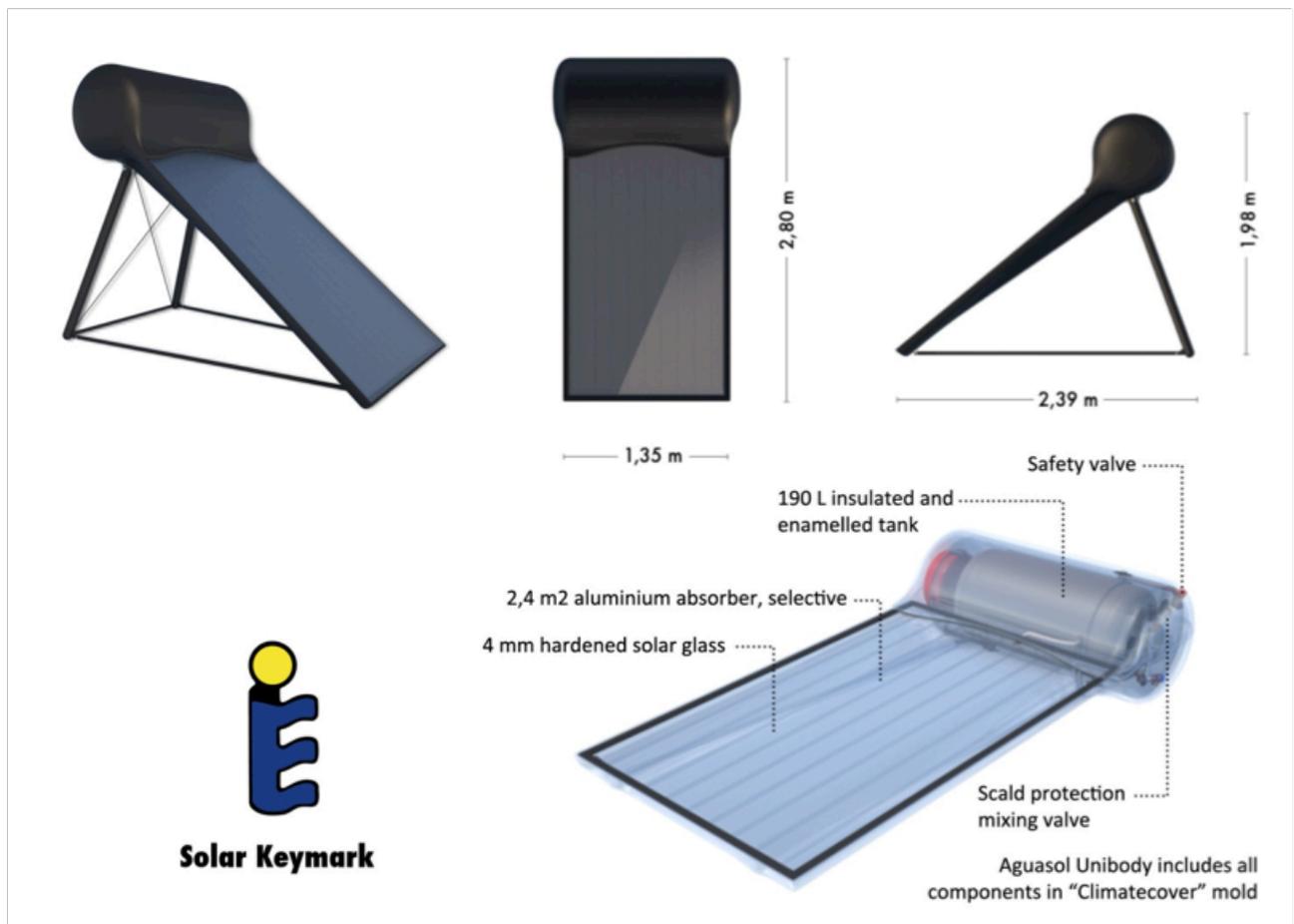




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## AGUASOL UNIBODY - TECHNICAL DATA

<b>Unibody</b>	
Polyurethane (Climatecover)	surface UV protected
Polyurethane (Unibody) insulation	25 mm
Lambda K-value	(10°) 27 mW/m·K (25 mm) 1,08 W/m <sup>2</sup>
Colour	black
<b>Tank &amp; fittings:</b>	
Storage tank, enamel steel	190 L
Mantle tank, steel	12 L
Tank - insulation	50 mm
Scald protection - thermostat	built-in
Anode	magnesium
Electric heating element (thermostat 10 - 70°C)	2,5kW built-in
Operating pressure	Max 10 bar
Hot / cold water supply	1,5 m
Expansion tank (optional)	12 L
<b>Glass:</b>	
Hardened solar glass 50l	0,912
<b>Absorber:</b>	
Total surface area	2,85 m <sup>2</sup>
Aperture area	2,48 m <sup>2</sup>
Efficiency	0,79
Coefficient of heat loss	3,69
Temperature coefficient	0,012

<b>Safety components (valves)</b>	
Safety valve (sanitary water)	8 bar
Safety valve (solar circuit)	3 bar
Scald protection	adjustable 35-65°C
Oneway valve (inspection)	1 piece

<b>Disposal of components</b>	
Unibody shell (polyurethane)	to be burned
Glass, aluminium, copper and other metals and insulation	to be recycled

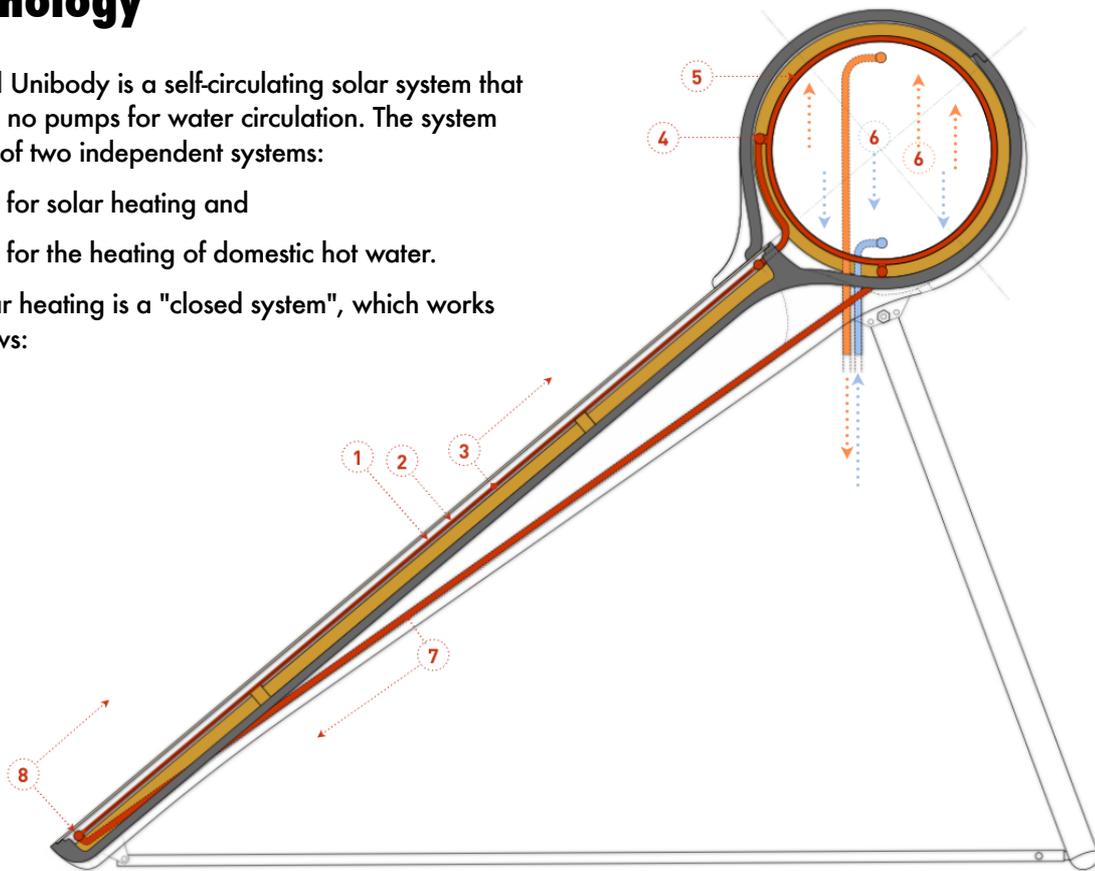
<b>Dimensions &amp; Weight</b>	
Aguasol Unibody	2,8x1,5x0,7 m
Tank (empty) incl. insulation and fittings	120 kg
Aguasol Unibody, exkl. tank and lid	80 kg
Unibody filled with water, incl. antifreeze	400 kg
Antifreeze	12 L included

## Technology

Aguasol Unibody is a self-circulating solar system that requires no pumps for water circulation. The system consists of two independent systems:

- one for solar heating and
- one for the heating of domestic hot water.

The solar heating is a "closed system", which works as follows:



1. Solar energy passes through the glass and quickly warms up the black/blue surface of the absorber.
2. The energy from the sun is transferred from the absorber plate to the risers, which then transfers the heat to the antifreeze in the "closed system" (red).
3. Because warm antifreeze has lower density than cold, the heated antifreeze flows upwards in the absorber. This is the beginning of the natural thermal process that generates self-circulation.
4. The heated antifreeze flows into the mantle of the hot water tank, and gradually transfers the heat to the sanitary water in the 190 L tank.
5. The heated antifreeze will distribute around the tank, in a way that the warmest antifreeze moves towards the top, and the cold antifreeze sinks to the bottom of the mantle reservoir.
6. Inside the 190 l tank a layering of the water is created. The warm water rises to the top of the tank. The cold water sinks to the bottom and thus enhances the self-circulating effect and heat transfer is in progress over the entire surface.
7. Because the water at the bottom of the tank is relatively cooler, the self-circulating effect is strengthened, causing the cold antifreeze to sink down towards the bottom of the absorber.
8. The antifreeze in the closed system is now back in the absorber and the process of heating will continue as long as there is a temperature difference between the mantle reservoir and the storage tank.

## Solar efficiency

The transformation of the solar energy in heating water runs with a high efficiency and complete insulation through the Climatecover provides low heat losses bringing the total solar efficiency to 75%. The exact performance depends on many factors such as inclination towards the sun, shade, temperature of the water inflow and consumption behaviour among other things.

## Saving potential

Aguasol Unibody brings two kinds of energy savings:

1. The heating of water runs without additional energy. Up to 75% of solar energy is converted into hot water.
2. With the Unibody it is possible to shut down the heating system in the months when space heating is not necessary. The efficiency of the burner or heating device in the months with low use is much lower than in the months when the heating device is running regularly. In addition the heat loss of the pipes is reduced by the shutdown. These savings can be up to 60% of the savings from hot water production depending on the type and age of the heating system.

