

## INSIDE THE STORAGE TANK

The inside of the Solahart storage tank is never seen. Like many consumer products, we assume that we are buying the best we can, even though we cannot see inside the product.

Because of Solahart's stringent and consistent manufacturing controls, the consumer is assured that the part of the system they never see is built to exacting standards. The consumer can expect a long and maintenance free life. The design of the tank components is part of a strategy to keep hot water hot - to get the maximum benefit from the sun.



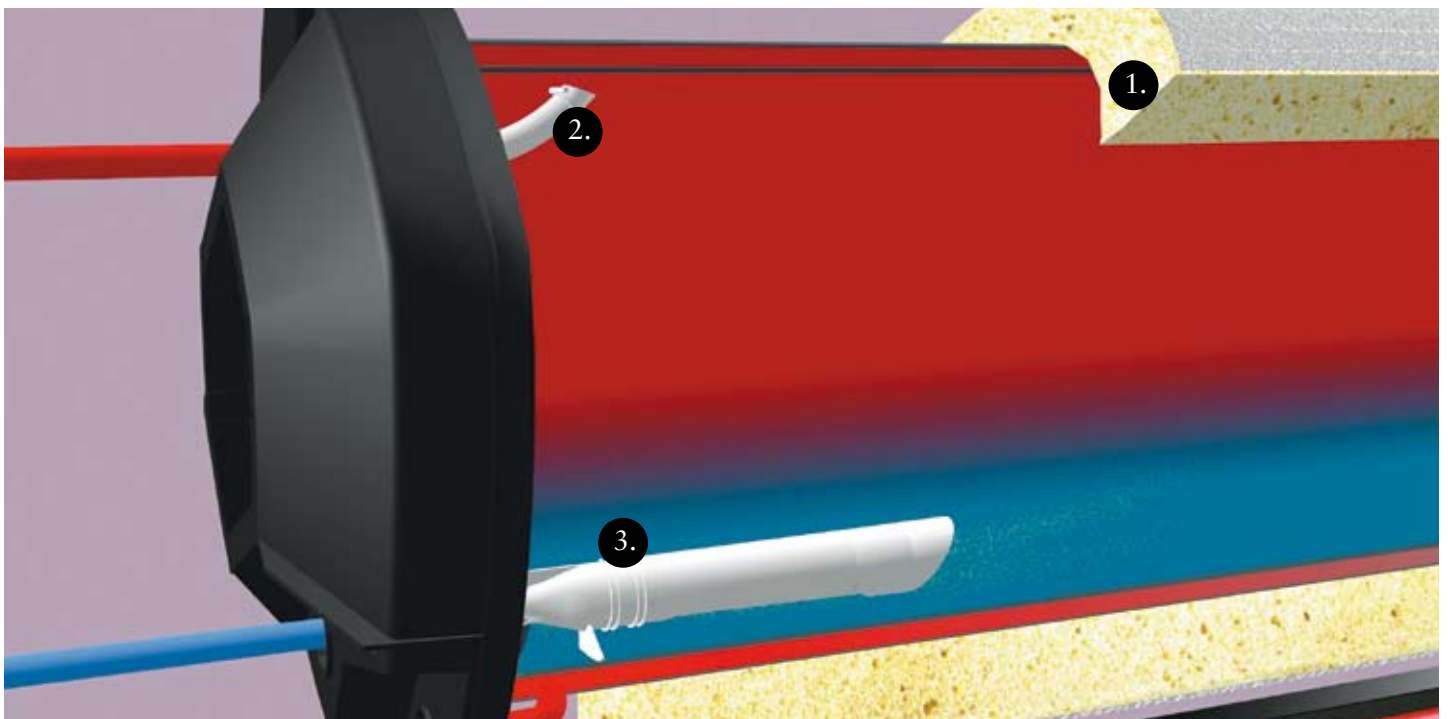
- Keeping Hot Water Hot
- Insulation
- The Booster

### Keeping Hot Water Hot

As hot water is drawn from a Solahart thermosiphon system, cold water is prevented from mixing with hot water. The incoming cold water enters the tank through a laminar 'soft flow' cone shaped stratifier, which diminishes the diluting effect of the cold water and helps keep the hot water hot.

Another Solahart design feature - a special outlet scoop located at the very top of the tank - ensures that the outflow water is taken from the hottest point.

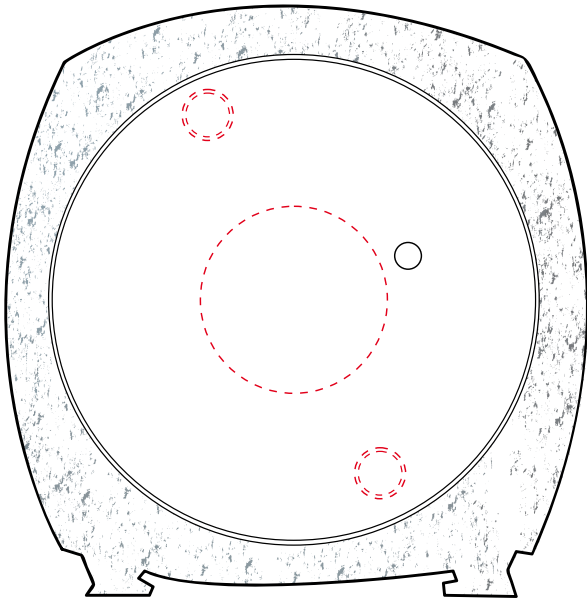
*Cross section of a jacketed Solahart hot water system showing internal components and hot water stratification.*



1. Dense - CFC Free insulation
2. Hot water outlet scoop
3. Water spreader

## Insulation

The outer casing of a Solahart thermosiphon storage tank is not cylindrical. This is another example of Solahart's smart thinking giving two benefits to the customer: First, hot water rises naturally, and the water in the tank becomes stratified. Secondly by designing the insulating jacket such that it is thicker at the top, hot water is kept hotter for longer.



*Cross section of tank showing high density insulation positioned where it is needed.*

Another subtle design feature is the fact that the tank is held in its insulated jacket at a slight angle, ensuring that hot water moves upward so the outlet scoop.

The insulation is high density CFC (chlorofluoro carbon) free polyurethane, which helps the environment. It is pressure injected, reaching and insulating all the small crevices. (Fact File 05 describes the construction of the tank)

## The Booster

Solahart use two methods of generating hot water during times of low solar radiation or darkness, or when heavy demand has depleted the storage tank. The standard booster in all Solahart systems for many years has been electric. This booster, whilst much more powerful, is not unlike the element in a domestic kettle, operating in much the same way.

A special 'bobbin' style electric booster element is available for areas of very hard water. This particular element is protected against the corrosive effects of hard water by encasing the element windings in a ceramic lined steel casing.

A more efficient way of using an electric booster is to fit an inexpensive time switch to the system and set the 'on-time' at night, or as required. The thermostat will ensure the minimum amount of energy is used.

Solahart has developed its 'Natural Wonder' gas boosting system that uses either natural gas (NG) or bottled Propane (LPG), making it a 'go anywhere' system. This patented electronic ignition booster is ceramic coated and acts as both the combustion chamber and heat exchanger. There is no pilot light so gas is only used when needed. It can be fitted to all Solahart systems manufactured from 1981 onwards. The high efficiency Solahart gas booster can also be controlled with a time switch.



*Solahart uses CFC free insulation*