

SOLAHART HEAT STORE SERIES II



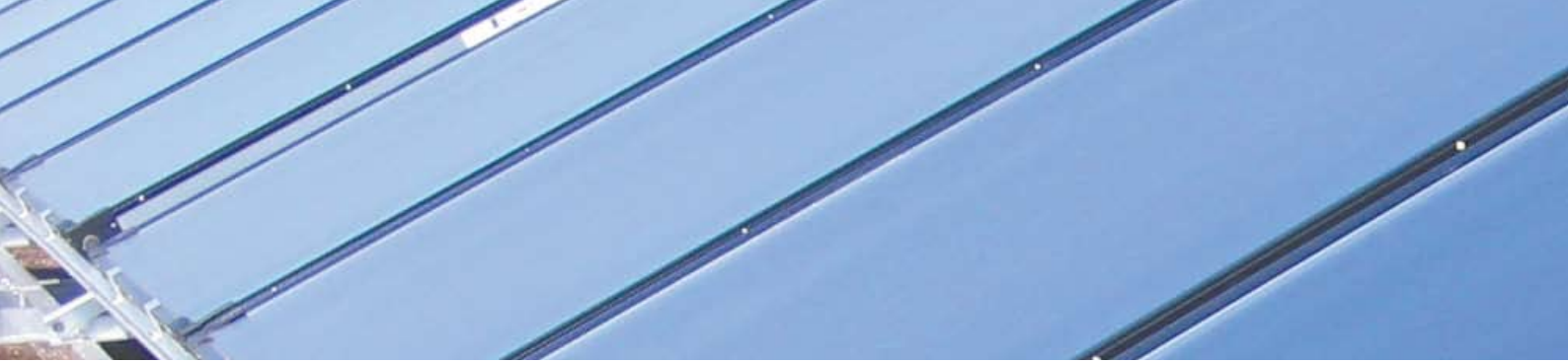
Commercial Solar Hot Water System

Around the world, Solahart is known as the pioneer in solar water heating. As a leading environmental brand we recognise that the importance of switching to solar water heating cannot be underestimated; both the environmental benefits and financial savings are significant, particularly when providing commercial hot water solutions.

With this philosophy in mind Solahart have designed the Heat Store Series *II* to provide large volumes of hot water,

in a powerful and cost effective packaged system that provides hot water free from the sun.

The Solahart Heat Store Series *II* system utilises a smart active controller which has the ability to be integrated into most building management systems. The intelligent controller manages all active components of the system; the solar circuit, the boosting plant to ensure the solar contribution is maximised to its full potential.

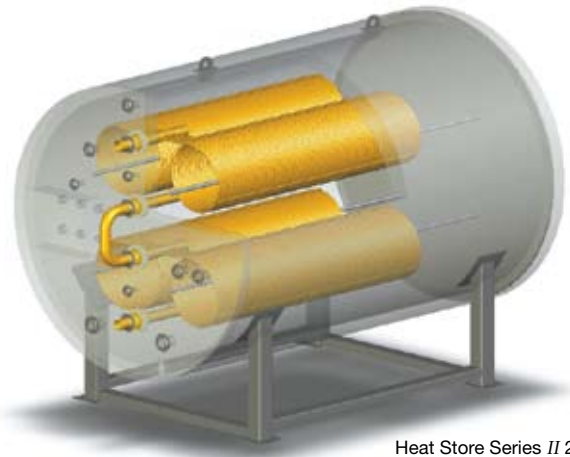


Principle of Operation

The Solahart Heat Store Series *II* system consists of a large capacity storage vessel, filled with a heat transfer fluid, coupled to Solahart's high performance solar collectors. Immersed in the fluid are copper coil heat exchangers through which the potable water supply is circulated. As the potable water passes through the coils the stored energy within the heat transfer fluid is conducted through the copper providing instantaneous hot water.

The potable water is heated as it passes through the high efficiency heat exchanger transferring the stored solar energy. These coils which are immersed in the solar heat transfer fluid have a surface area of up to 32m².

Another advantage of this design is its durability and suitability to cope with a wide range of water quality conditions providing years of trouble free operation.



Heat Store Series *II* 2200 DB

Solar Operation

The Solahart Heat Store Series *II* system is designed utilising the Drain Back principle; the advantage of which is its ability to provide high performance, overnight heat conservation, the elimination of overheating on high radiation days and protection against freezing.

The Solahart Heat Store Series *II* system incorporates an automatically controlled pump, which is activated by a smart active controller and can be integrated into most building management systems (BMS). The controller utilises sensors to compare the temperature difference between the solar collectors and the storage vessel to determine the ability of the system to produce a heat gain.

While the pump is running, the closed circuit heat transfer fluid circulates through the solar collectors, collecting energy from the sun and transferring that energy to the potable water.

The pump is turned off by the solar controller when it has either reached its preset temperature of 85°C, or there is no more energy to collect (usually at the end of the day). The fluid circulating in the collectors automatically drains back into the main storage vessel.

The Solahart System of heat transfer and storage provides the user with far greater flexibility in the capacity of the system to provide large volumes of hot water over short periods without incurring a significant reduction in the temperature of the delivered water.



Typical BT collector field

Flexibility of Configurations

The flexibility of the system ensures it can be connected to almost any existing hot water plant as a solar pre-heater, with minimum disruption to the existing installation, immediately reducing its running costs. Alternatively, the system can be tailored for new building projects or as a replacement for old, inefficient water heaters.

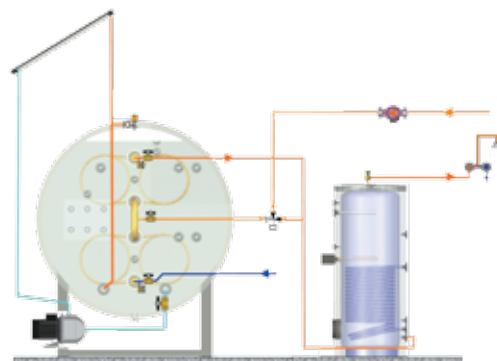
All systems are equipped as standard with four process ports on the front face of the tank. These can be used to add hydronic heating support and/or spa or pool heating from a single unit. The three smaller systems in the range have an optional 30kW plate heat exchanger and circulation pump which can be used to provide heating support to new or existing heating circuits.

These ports can also be used for process heating in a number of industrial applications.

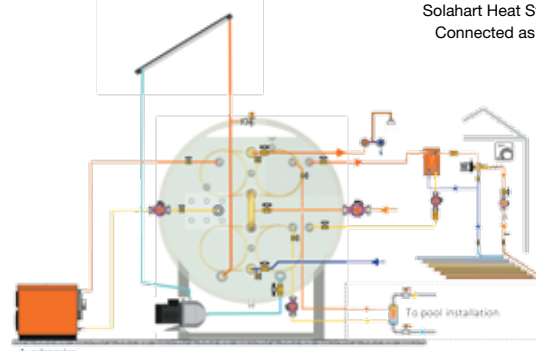
The Heat Store Series II is available in six models, ranging in storage capacity from 1,000ltrs to 7,000ltrs. All models can be configured for solar heating only, or with either gas or electric in tank or in line boosting. Further, multiple systems can be manifolded together to ensure that even the highest hot water demand can be met.

This flexibility makes the Heat Store Series II a cost effective choice for a variety of applications such as hotels, hospitals, apartment buildings, under-floor heating, space heating or a combination of different heating loads.

Large commercial applications, where hot water usage requirements exceed 1,000 litres per day, are often serviced by several water heater plants. The Solahart Heat Store Series II allows you to replace or add to traditional boiler plant with environmentally friendly solar hot water, saving carbon dioxide emissions while lowering ongoing running costs.



Solahart Heat Store Series II
Connected as a Pre-Heater



Solahart Heat Store Series II
Configured For Underfloor and Pool Heating

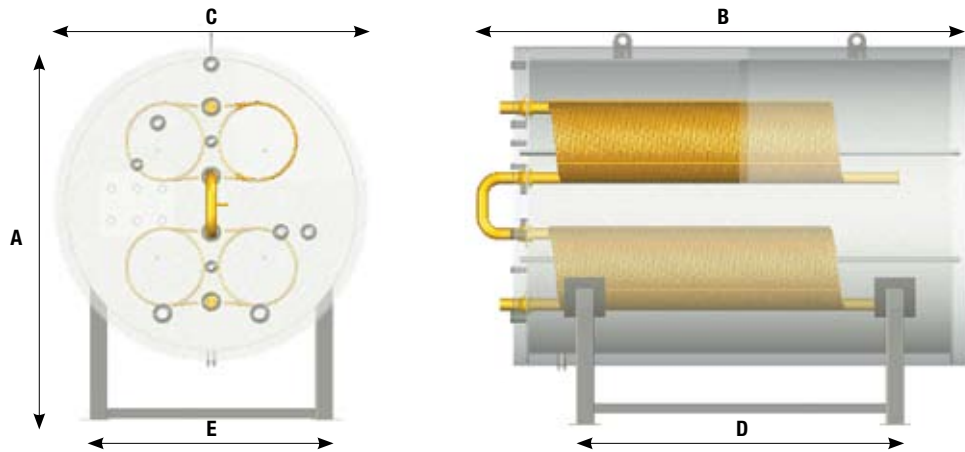
For example

A typical 7,000ltr storage capacity system in the Middle East sized to deliver 15,000ltrs per day of hot water @ 60°C could achieve a solar contribution fraction of 80% with a saving of 190,000kWh/year and a reduction of over 250 tonnes of carbon dioxide emissions when compared to a conventional electric water heater (supplied via a coal fired power station).



In South Africa Solahart has the reputation as the premium brand.
So much so that even Nelson Mandela has had a Solahart installed.
In Poland Lech Walesa, the Nobel Peace Prize winner and former president also has one installed.

Specifications



MODEL		1000 DB	1500 DB	2200 DB	3500 DB	5000 DB	7000 DB
Nominal Storage Capacity	Litres	1000	1500	2200	3500	5000	7000
Peak DHW Flow rate	L/Min	60	60	120	120	180	180
Max Working Pressure of Tank	kPa	50	50	50	50	50	50
Cold Water Supply Pressure Min/Max	kPa	140/1200	140/1200	140/1200	140/1200	140/1200	140/1200
Weight Empty	kg	525	600	680	1100	1500	1856
Weight Full	kg	1525	2100	2880	4600	6500	8856
Domestic Hot Water Connections	mm	32	32	50	50	80	80
A	mm	1272	1422	1672	1966	2210	2210
B	mm	2100	2100	2100	2100	2100	2400
C	mm	962	1112	1362	1656	2016	2016
D	mm	1400	1400	1400	1400	1400	2000
E	mm	650	800	1050	1250	1500	1500
Coil Surface Area	m ²	8	8	16	20	32	32
Qty of Collectors	pcs	8-12	12-16	16-24	24-36	36-60	59-96
Collector Aperture Surface Area	m ²	15.2 - 22.8	22.8 - 30.4	30.4 - 45.6	45.6 - 68.4	68.4 - 114	106.4 - 182.4
Maximum Auxiliary Energy Input Electric	Kw	28.8	28.8	28.8	43.2	57.6	57.6
Maximum Auxiliary Energy Input Gas	MJ/h	200	200	200	430	430	430

Electric Boost (in tank)

Rating	3 Phase Power Supply	Load	Heating Capacity	No. of Elements	
kW	Volts	Amps	Δ40°C l/hr	(4.8kW)	
1	28.8	415	50	618	6
2	43.2	415	75	927	9
3	57.6	415	100	1,237	12

Gas Boost (in tank)

Rating	Heating Capacity	
MJ	Δ40°C l/hr	
1	200	937
2	430	2,012

Solahart Australia
 PO Box 6, Rydalmere, NSW 2116
 Telephone: (02) 9684 9100 Facsimile: (02) 9684 9180
 solahart@solahart.com.au
 www.solahart.com.au

Solahart International
 112 Pilbara Street, Welshpool, WA 6106
 Telephone: +61 8 9351 4600 Facsimile: +61 8 9351 8034
 solahart@solahart.com.au
 www.solahart.com



hot water free from the sun