



# Solus II

## Highest energy savings for hot water and space heating



Top performers  
...top efficiency in capturing sunrays



### SOLUS II

Through its patented construction the SOLUS II guarantees quick and high solar energy harvesting without the additional use of pumps or regulators. The stored heat energy is used for the generation of hot water and for space heating support. With its very low heat loss, considerable amounts of CO<sub>2</sub>, energy, and therefore money can be saved over the whole service life of a SOLUS II.

### Usage

- Family homes, apartment complexes and commercial applications
- Maximum energy savings for hot water and heating support
- Easy integration into all heating systems (radiators, in wall or under-floor heating)
- Optimised usage in combination with pellet, chip or log fuel boilers
- Compatible with oil or gas boilers

### Advantages

- Up to 40% savings on your annual heat energy bill
- Stratification system ensures rapid availability of solar heat. The boiler needs to fire up less often and therefore more energy can be saved
- Optimised water hygiene through the continuous flow heat exchanger
- High-performance insulation system will store heat for several days
- Will accept more than one boiler, eg a pellet stove or gas boiler, and a log batch boiler, as well as solar

#### Solus II Comfort range in 800L and 1000L

The Comfort range delivers efficient hot water provision and particularly high energy savings. As with the Comfort-Pro range they are suitable for all types of heat source/connections.

#### Solus II Comfort-Pro range in 550L, 850L, 1050L and 2200L

In addition to the features of the Comfort range the Comfort-Pro range comes with a higher heat output hot water heat-exchanger which will provide a higher flow rate. The insulation contains an additional aluminium foil to ensure extremely low heat loss.



## SOLUS II - the most efficient combination system according to independent tests by Stiftung Warentest



In the latest test by the independent German Foundation for Testing Products (Stiftung Warentest) the SOLUS II system coupled with TUBO 11 CPC (the precursor to the current TUBO 12 CPC) received by far the best rating with regard to efficiency.

### Special stratification technology

The Consolar combination thermal store leads the market due to its special stratification system. Due to its particular internal construction two or three times more water can be heated compared with similar systems without the patented water management system. The advantage is the boiler does not need to heat as often and more energy can therefore be saved.

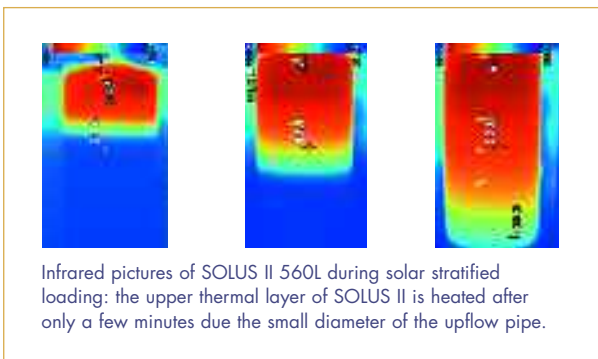
### Hygienic hot water generation

Hygiene problems can occur in conventional hot water storage systems as water remains in the reservoir at medium temperatures longer, which can lead to an accumulation of legionella. In the SOLUS II product range a volume of between 3 and 15 litres is contained in the heat-exchanger; hot water is heated quickly in a continuous flow and is therefore hygienically secure.



### Rapid availability of hot water through the top loading function

Both the thermosyphon effect of the upflow pipe and the top loading function of the CONTROL regulator ensure that reservoir water is heated to an immediately usable temperature and stored in the upper thermal layer of the unit. The small volume of less than 0.5 litres of the upflow pipe permits immediate usage in comparison with other significantly slower systems, which need to heat the entire volume in the stratification pipe first.



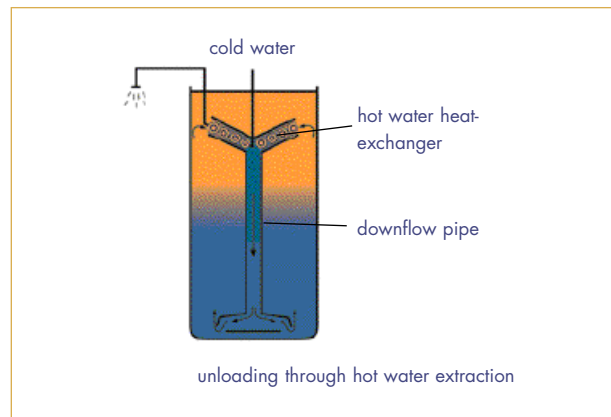
Infrared pictures of SOLUS II 560L during solar stratified loading: the upper thermal layer of SOLUS II is heated after only a few minutes due to the small diameter of the upflow pipe.

### High-grade materials

The ingenious design and high quality materials are chosen on account of their longevity, environmental-friendliness and short embodied energy payback period. In the latest test by the independent German Foundation for Testing Products (Stiftung Warentest), the Consolar installation came top by far in this category.

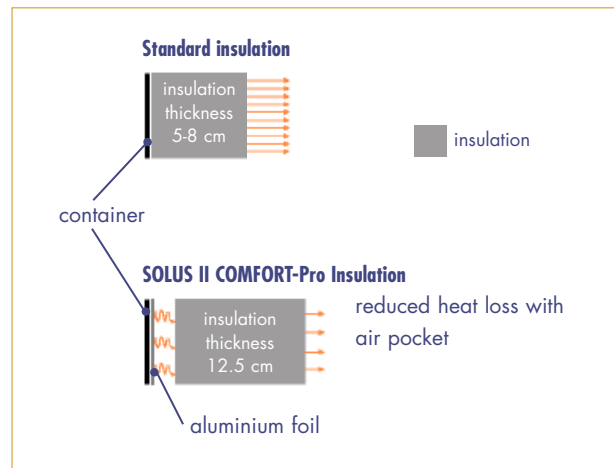
### High storage capacity through stratified unloading

The heat capacity of SOLUS II increases above conventional thermal stores, on account of stratified unloading, which results in a less frequent need for additional heating and a greater availability of hot water. Due to the flat design of the solar heat-exchanger the full volume of the thermal store can be used, making it effectively equivalent to a much larger reservoir.



### Very low heat loss through the high-performance insulating system

Heat loss is kept at an absolute minimum through insulation. The mirror coating of the tank significantly reduces radiation loss and additional air pockets between the container wall and the insulation increase this effect further. The EPS foam employed has a good insulation value and is ecologically superior to soft and hard PU foams. The specially developed angled connections serve as heat retarders so that the micro circulation and the resulting heat loss at the connection is reduced to a fraction.



# High-efficiency solar installations

## Inspiring High Performance Technology

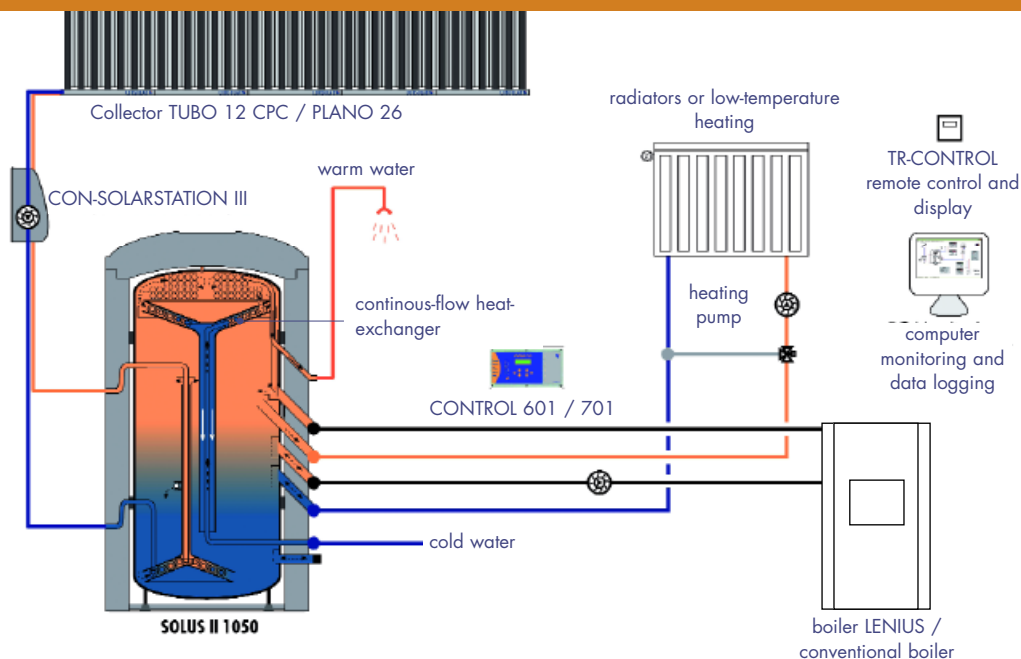


### Choose high performance technology by Consolar

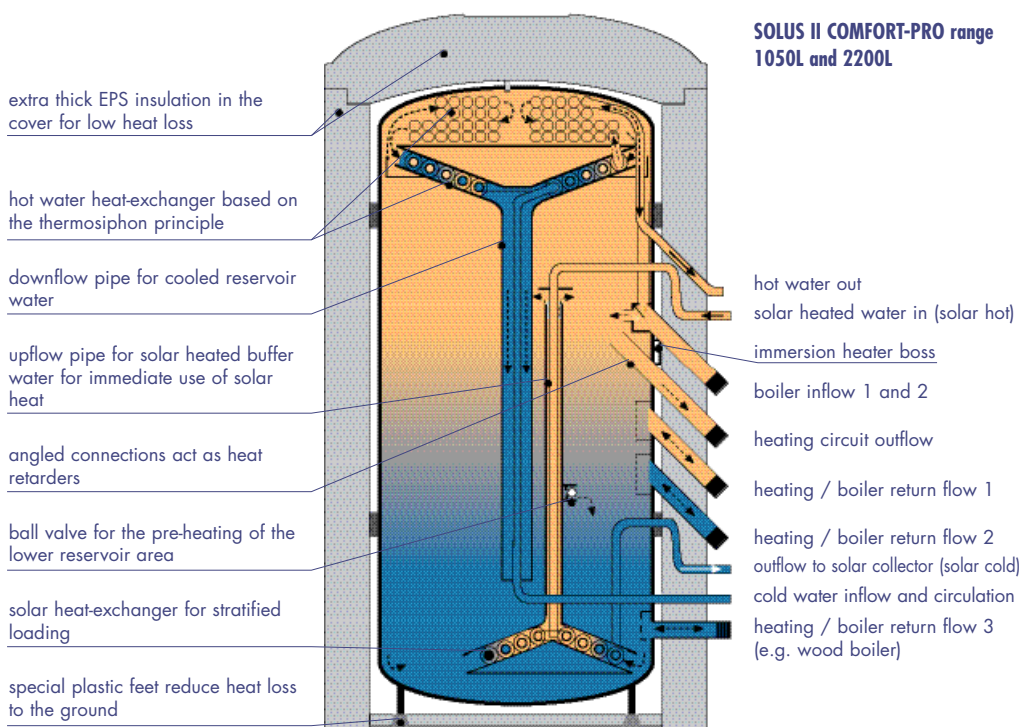
- 20,000 tried-and-tested installations Europe-wide
- Over 20 patents and registered designs
- Collaboration with renowned institutes, universities and research facilities
- Ethically responsible with in-house development and environmentally-friendly manufacturing in southern Germany. Ethics in Business Award 2005
- Longevity and safety due to high-grade raw materials and more than 20 years development experience

### Test results for solar systems employing SOLUS II

- In the latest test by Stiftung Warentest (German Foundation for Testing Products) the SOLUS II 560L combination thermal store together with 6 TUBO 11 CPC tube collectors - the smallest combined installation tested - achieved outstanding results in three categories. In the categories 'output factor' (installation efficiency), 'production, materials and packaging' and 'embodied energy payback' - the highest grade 'very good' was awarded.
- February 2007: The same arrangement as the one tested by Stiftung Warentest was measured and simulated using the new TUBO 12 CPC by the Institut für Wärmetechnik und Thermodynamik (ITW) (Institute for Heat Technology and Thermodynamics) in Stuttgart, Germany. This demonstrated that energy savings had increased by 16%; an outstanding result.



Typical arrangement of SOLUS II with boiler buffering



Cross sectional view of SOLUS II 1050L / 2200 L

# SOLUS II

## Technical Data



Technical data	SOLUS II Comfort range		SOLUS II Comfort-Pro range			
	SOLUS II 800 <sup>1)</sup>	SOLUS II 1000 <sup>2)</sup>	SOLUS II 560L <sup>3)</sup>	SOLUS II 850L	SOLUS II 1050L	SOLUS II 2200L
Reservoir volume	800 l	1000 l	550 l	800 l	1000 l	2200 l
Net weight	175 kg	225 kg	147 kg	190 kg	255 kg	395 kg
Diameter without insulation	79 cm	79 cm	70 cm	79 cm	85 cm	130 cm
Diameter with insulation	106 cm	106 cm	96 cm	106 cm	111 cm	156 cm
Height with insulation	205 cm	225 cm	175 cm	205 cm	206 cm	206 cm
Insulation	Lid: 15 cm Side: 10 cm + 2,5 cm	Lid: 15 cm Side: 10 cm + 2,5 cm	Lid: 15 cm Side: 10 cm + 2,5 cm	Lid: 15 cm Side: 10 cm + 2,5 cm	Lid: 15 cm Side: 10 cm + 2,5 cm	Lid: 16 cm Side: 10 cm + 2,5 cm
Max. allowable temperature	90°C	90°C	90°C	90°C	90°C	90°C
Max. draw down rate at 45°C <i>(reservoir top 60°C) higher rates are possible at higher temperatures</i>	20 l/min  32 l/min	20 l/min  32 l/min	18 l/min	25 l/min	30 l/min	30 l/min
No. of accommodation units served with hot water	1-2 Apartment	1-2 Apartment	1-2 Apartment	1-2 Apartment	1-3 Apartment	1-3 Apartment
Collector surface	8-16 m <sup>2</sup>	8-16 m <sup>2</sup>	5-10 m <sup>2</sup>	8-16 m <sup>2</sup>	11-22 m <sup>2</sup>	11-22 m <sup>2</sup>
Materials	Copper, PP, steel, EPS-foam, PS-cover	Copper, PP, steel, EPS-foam, PS-cover	Copper, PP, steel, EPS-foam, PS-cover with aluminium foil	Copper, PP, steel, EPS-foam, PS-cover with aluminium foil	Copper, PP, steel, EPS-foam, PS-cover with aluminium foil	Copper, PP, steel, EPS-foam, PS-cover with aluminium foil

<sup>1)</sup> SOLUS II 800S without hot water heat-exchanger e.g., for external transfer station on request

<sup>2)</sup> SOLUS II 800S and 1000S without hot water exchanger but plus a Fresh Water Station

<sup>3)</sup> SOLUS II 560NFL also as special reservoir with additional heat exchanger for community heating systems on request

Note: We now offer a SOLUS II 1000PM, and also a 2200S & PM as extension buffering volumes.



### All-inclusive packages from Consolar:

SOLUS II available in an all-inclusive package with high-grade PLANO 26 flat plate collectors or TUBO 12 CPC high-performance tube collectors

### Installer address:

### UK

Consolar UK, Greenshop Solar, Bisley, Stroud, Gloucestershire. GL6 7BX

www.consolar.co.uk info@consolar.co.uk

Consolar UK: 01452 772030

Consolar GmbH

sales headquarters

Strubbergstraße 70

60489 Frankfurt/Main

Fax 069/740 93 28-50

Consolar GmbH

regional sales

Gewerbstraße 7

79539 Lörrach

Fax 07621/422 28-31

info@consolar.de, www.consolar.com

