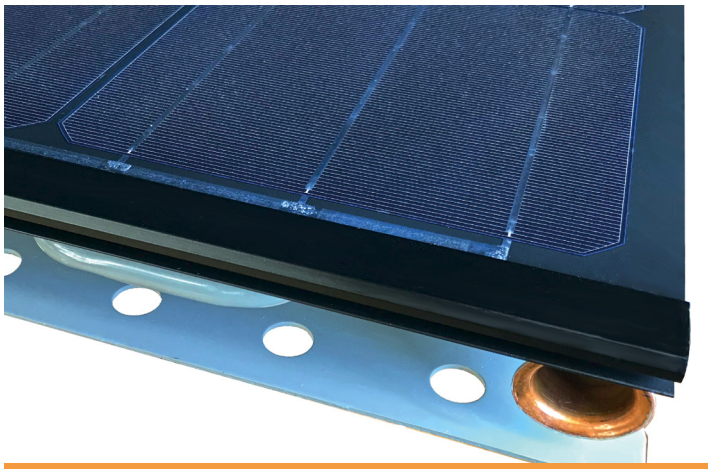
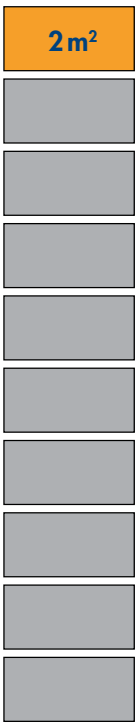


SOLINK – The heatpump collector

80 m2 SOLINK installation in Lüttich (BE)

Energy collector for ground source heat pumps

SOLINK combines the high efficiency of ground source heat pumps with the advantages of air heat pumps. Silent operation and flexible use on roofs or facades make the collector attractive as an energy source for electricity and heat. SOLINK was specially developed for heat pumps. Coupling with geothermal probes is not necessary due to the high efficiency heat exchange with double use of the roof area. This creates systems with a completely renewable energy supply and low operating costs.



Double use of the roof space and 10 times the heat exchanger surface area

The area of the roof can usually be used only once for electrcity or heat production. With SOLINK, on the underside of the XL 2 m² Pv module, a special air heat exchanger with a surface area of 20 m² ensures high power production and simultaneous utilization of the module waste heat. This means that the entire heat requirement is directly covered and the total annual electricity demand is produced. The large surface area heat exchanger makes this possible on a much smaller roof area compared to other PvT collectors.

Silent operation

SOLINK works without the usual fans and an outdoor unit. In comparison to an air source heat pump the outside can be enjoyed in peace.

Highest efficiency without a ground array

So far, a ground array of either bore hole or horizontal pipes had to be laid for low power consumption. SOLINK can do without. In most cases, roof or possibly facade surfaces are sufficient. With similar investment costs, a higher return is given.

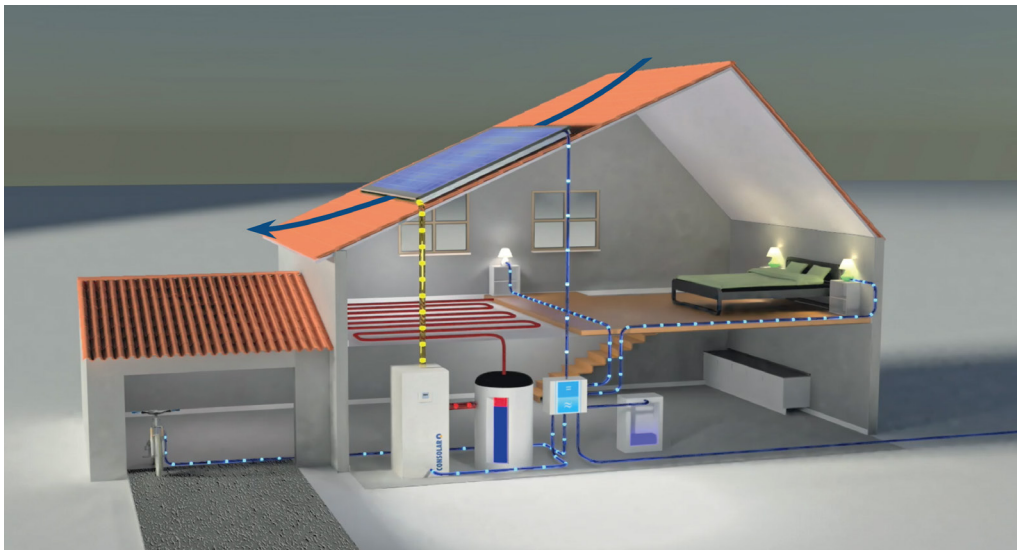
7% increase in performance, quality and service life

The large air heat exchanger reduces the module temperature compared to standard PV modules with and without heat pump operation. Approximately 7 - 10% higher output yield and a reduced maximum module temperature lead to a long service life. SOLINK has been tried and tested since the winter of 2016/17 and is based on a precursor development that has been in use since 2014.

SOLINK - electricity and heat from one collector / module

ENVIRONMENTAL TECHNOLOGY AWARD
BADEN-WÜRTTEMBERG 2017
1ST PRIZE
CATEGORY 1
ENERGY EFFICIENCY

SOLINK was awarded the Environmental Technology Award for Energy Efficiency of the State of Baden-Württemberg in 2017

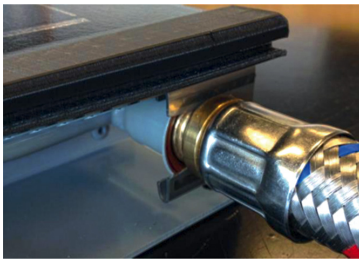


FLEXIBLE APPLICATION RANGES

- Single house and apartment building
- Office and commercial buildings
- Municipal buildings
- Cold district heating networks
- Swimming pools
- Replacement/extension of Boreholes/ horizontal collectors

BENEFITS FOR INSTALLATION OPERATIONS

- Proven plug-in system for heat and power production
- Up to 7 collectors can be hydraulically coupled in a row
- There is no need to fix the hydraulic connectors between the collectors
- Reinforced hoses are fixed in seconds without tools using plug-in clips
- All brine circuit means no F-Gas is needed



The tried-and-tested hydraulic plug-in system enables quick and easy installation without tools

Collector/Module	SOLINK
Collector dimensions and weight	Dimensions (W x H x D) in mm: 994 x 1984 x 63 Gross area: 1.97 m^2 Weight: 32 kg
Collector aperture area	Aperture in mm: 1940 x 984 Aperture area: 1.91 m^2
Rated power [1]	340 Wp
Rated current / voltage [1]	9,05 A / 37,6 V
Short-circuit current [1]	9,45 A
Open circuit voltage [1]	48,0 V
Cells / module efficiency [1]	19,4 % / 17,5 %
Output power tolerance [1]	0/+5 W
Maximum reverse current [1]	18 A
Max. System voltage	1000 V (application class A)
Temperature range	-40 to +95 °C
Content	3,4 l
Optical efficiency [2]	25,3 %
Heat transfer coefficient air-heat exchanger b1 [2]	60 W/m^2 K
Effective heat capacity [2]	177 kJ/(m^2K)
Stagnation temperature	70 °C
Collector pitch [3]	South orientation is optimal at 30 ° to 60 ° employment.

1) Electrical data were measured at standard PV conditions. Cooling improvements are not included. The module performance is continuously developed. Currently they are 340 Wp and corresponding values. In the future, the values can improve
2) TNO Report 2017 R10903
3) In areas with snow, angle of pitch should be no lower

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