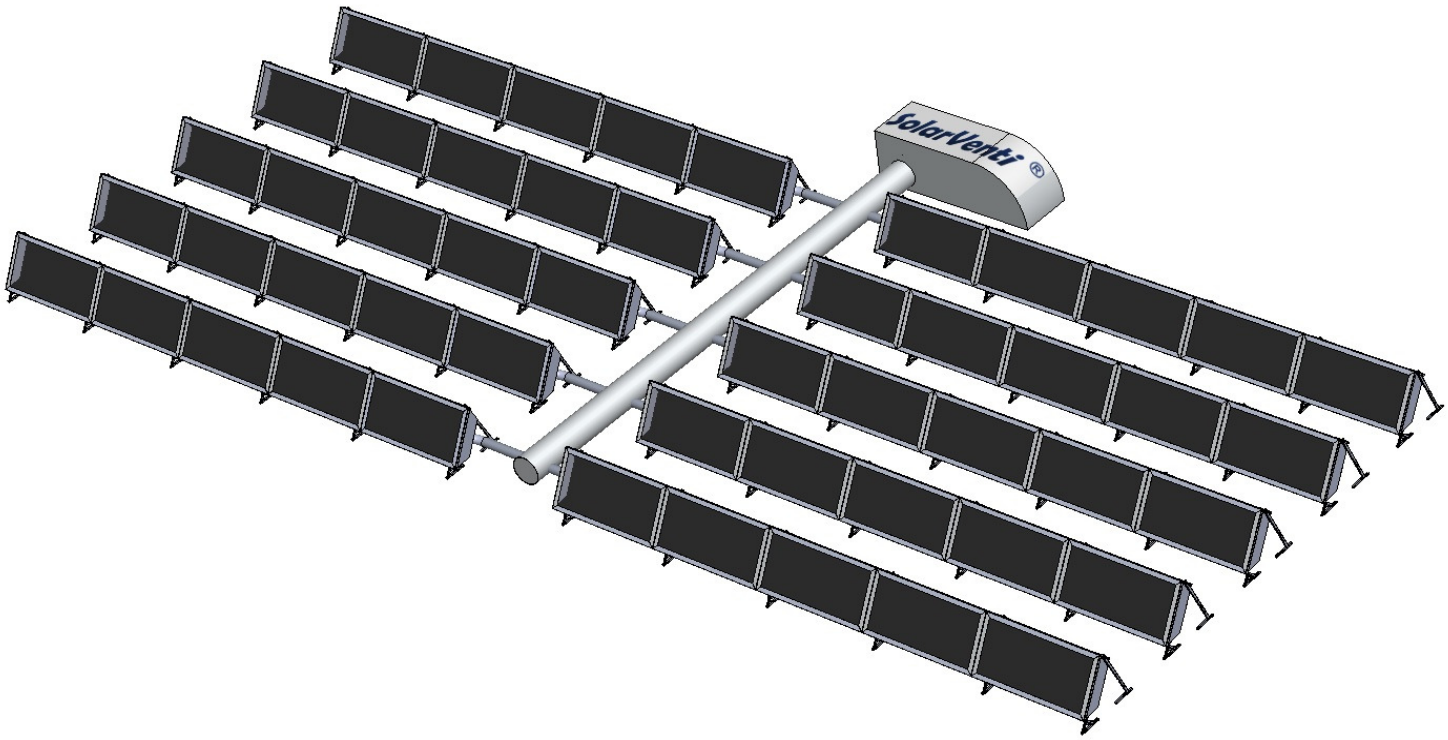
SolarVenti®



Solar Air Collectors

for commercial and industrial roofs

Datasheet

SolarVenti Professional

www.solarventi.com

General:

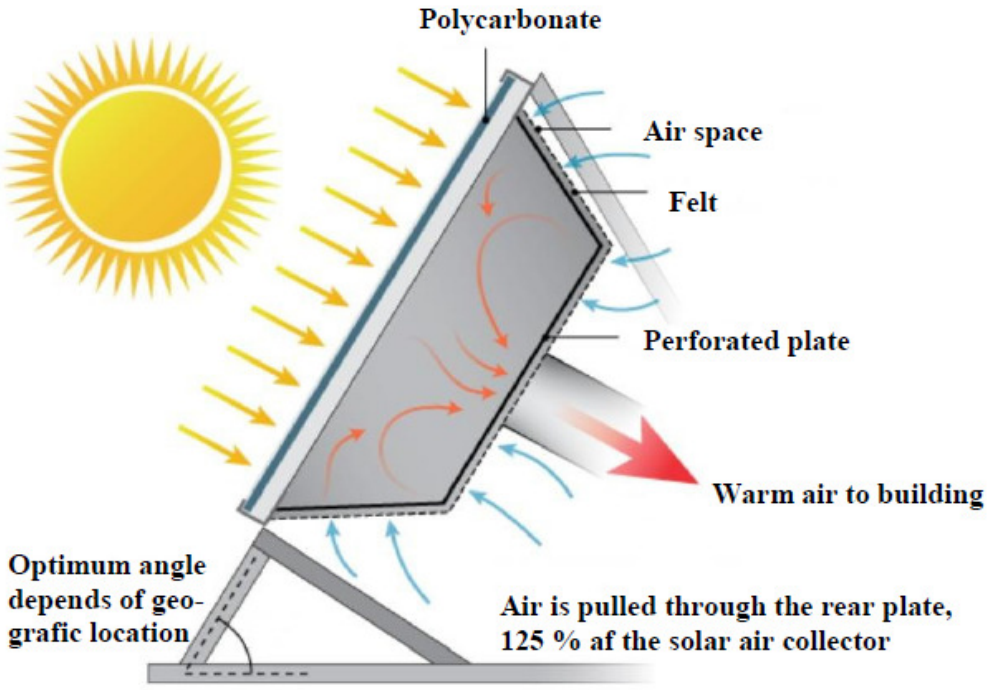
Basic concept:

- SolarVenti Professional preheats supply air to commercial/industrial HVAC systems.
- The preheated air is supplied at zero running cost.
- The free preheated air supply significantly reduces the need to run heating coils.
- The result is a substantial reduction in overall building heating costs.

The system is particularly suitable for production facilities, warehouses, swimming pools commercial buildings, office blocks etc.

Positioning of SolarVenti Professional units:

- SolarVenti Professional is designed for roofs (or ground) with little or no slope.
- SolarVenti Professional is optimally installed facing as close to due South as possible.
- A deviation of up to 45 degrees from due South is possible by simply increasing the area of solar collectors.
- At design stage, you need to take into account roof hoods, roof windows and other technical equipment on the roof.
- For preheating air from the southerly facing vertical walls of a building, SolarVenti recommends the use of the Canadian system, Lubi. SolarVenti A/S is the Scandinavian distributor for Lubi air preheating systems .



SolarVenti Professional

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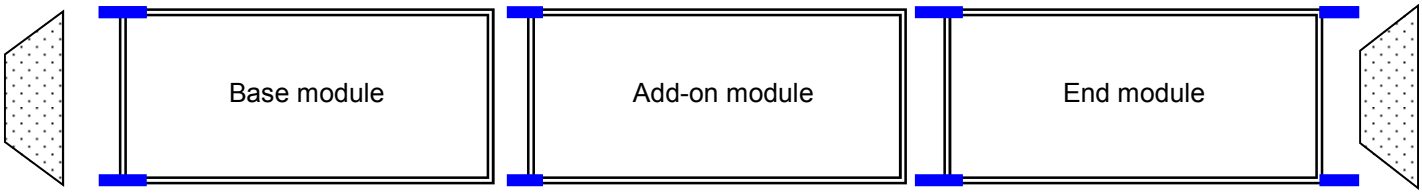
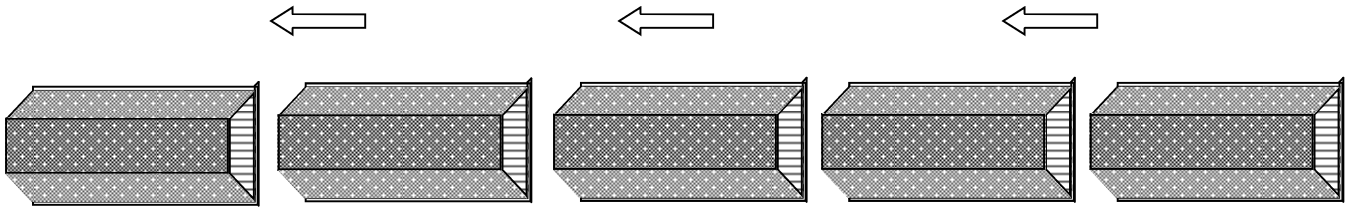
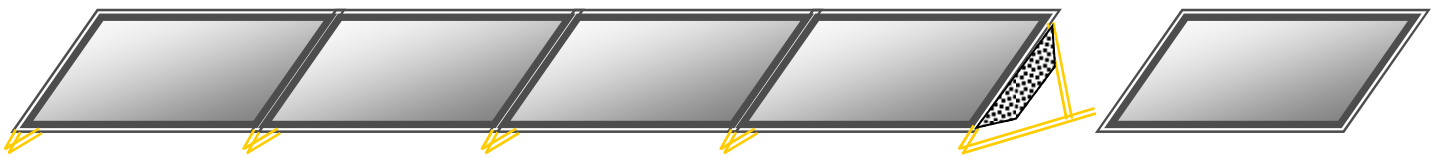


Max. 10 modules per row (20 meters)



The modules are assembled on site.

Max. 20 meters.



SolarVenti Professional

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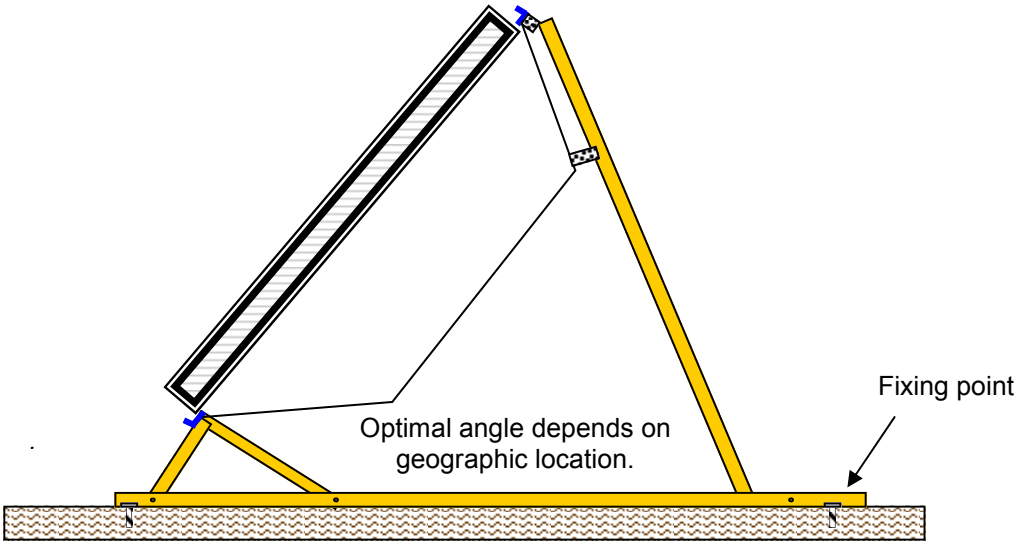


Den Jyske Håndværkerskole Hadsten
(Hadsten Technical College, Denmark)

SolarVenti Professional

Technical data:

Base module

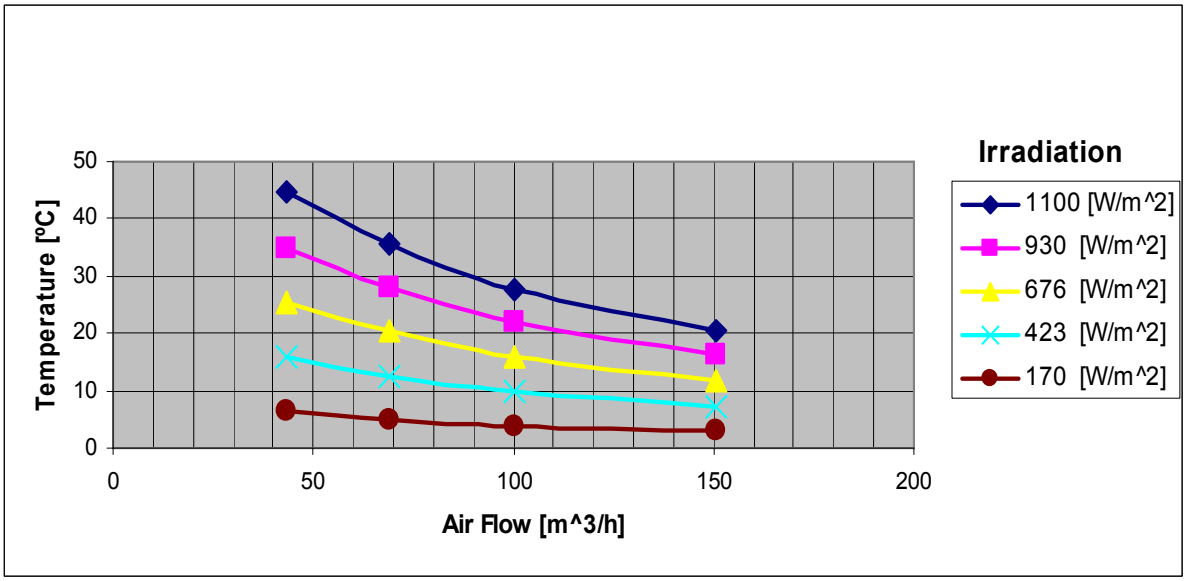
Dimension:	1004 mm x 1970 mm x 300 mm
Weight:	Approx. 10 kg per module
Felt/Absorber:	1,25 m^2 absorber/felt per. m^2 collector, 2 mm black polyester.
Cover:	10 mm Polycarbonate (UV-resistant).
Pressure drop:	25 Pa / 50 m^3/m^2 collector 75 Pa / 100 m^3/m^2 collector 175 Pa / 150 m^3/m^2 collector
Efficiency:	70% - Each 125 m^3/m^2 collector
Max. energy output:	Approx. 742 kWh/m^2 at 125 m^3/m^2 collector
Average energy output:	500 kWh/m^2 (depends on type of control system)
Felt:	The absorber/felt is automatically cleaned at temperatures above 80°C. There is normally no need to replace the felt. The felt withstands temperatures up to 200°C.

Other recommendations:

Max. length per row of collectors: 20 meters
For larger air volumes, more rows of collectors are recommended.

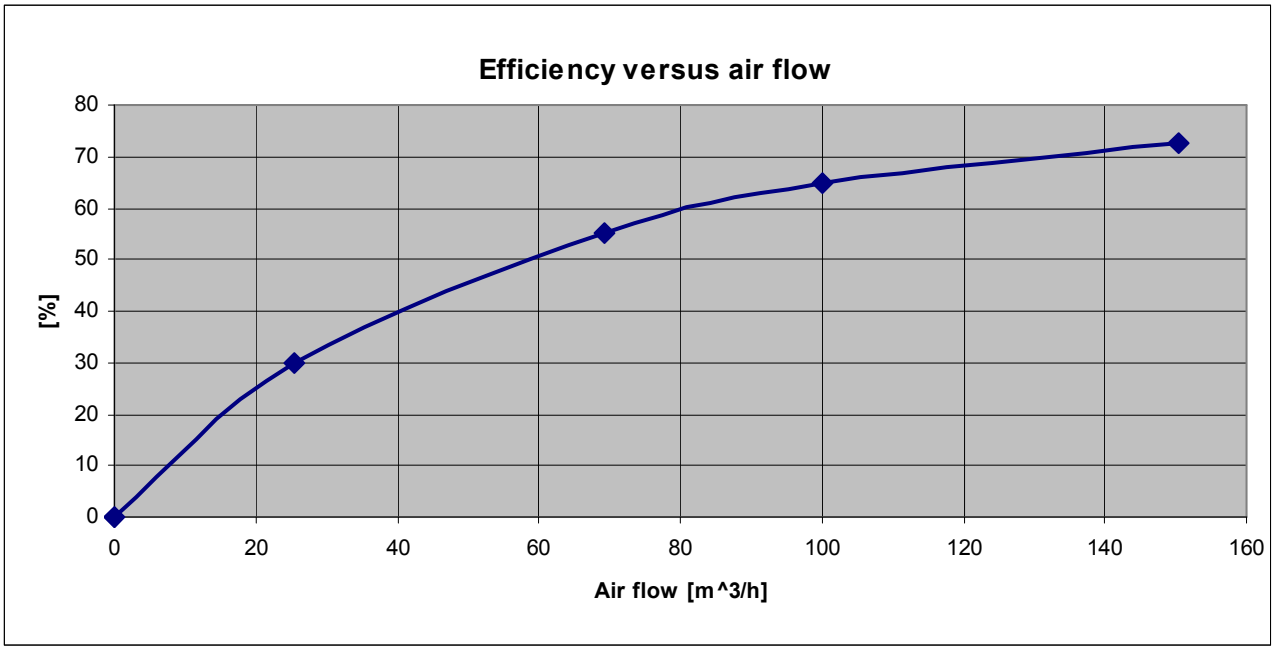
Documentation:

A similar model (SolarVenti SV14) has been tested and approved by the Fraunhofer Institute in Germany
CE-norm is not yet available.
SolarVenti A/S participates in this in Germany (LUKO project).

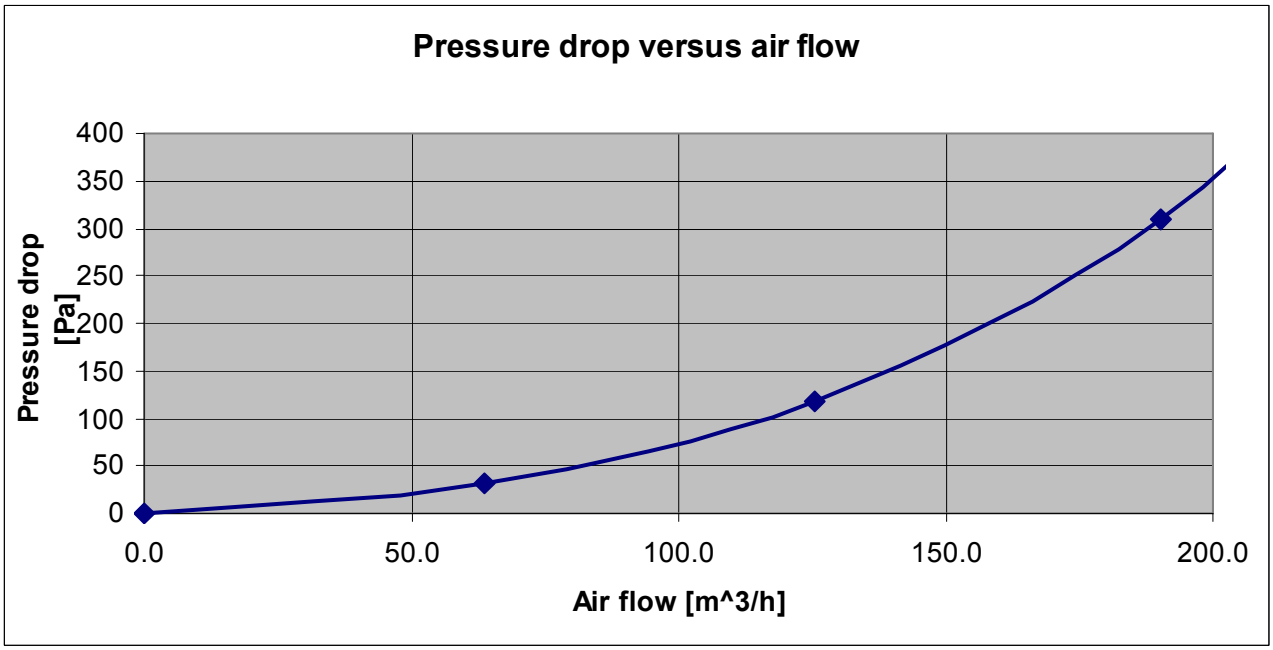


Source: Fraunhofer InInstitute

SolarVenti Professional



Measurements of the Solar Air Collector efficiency versus air flow.

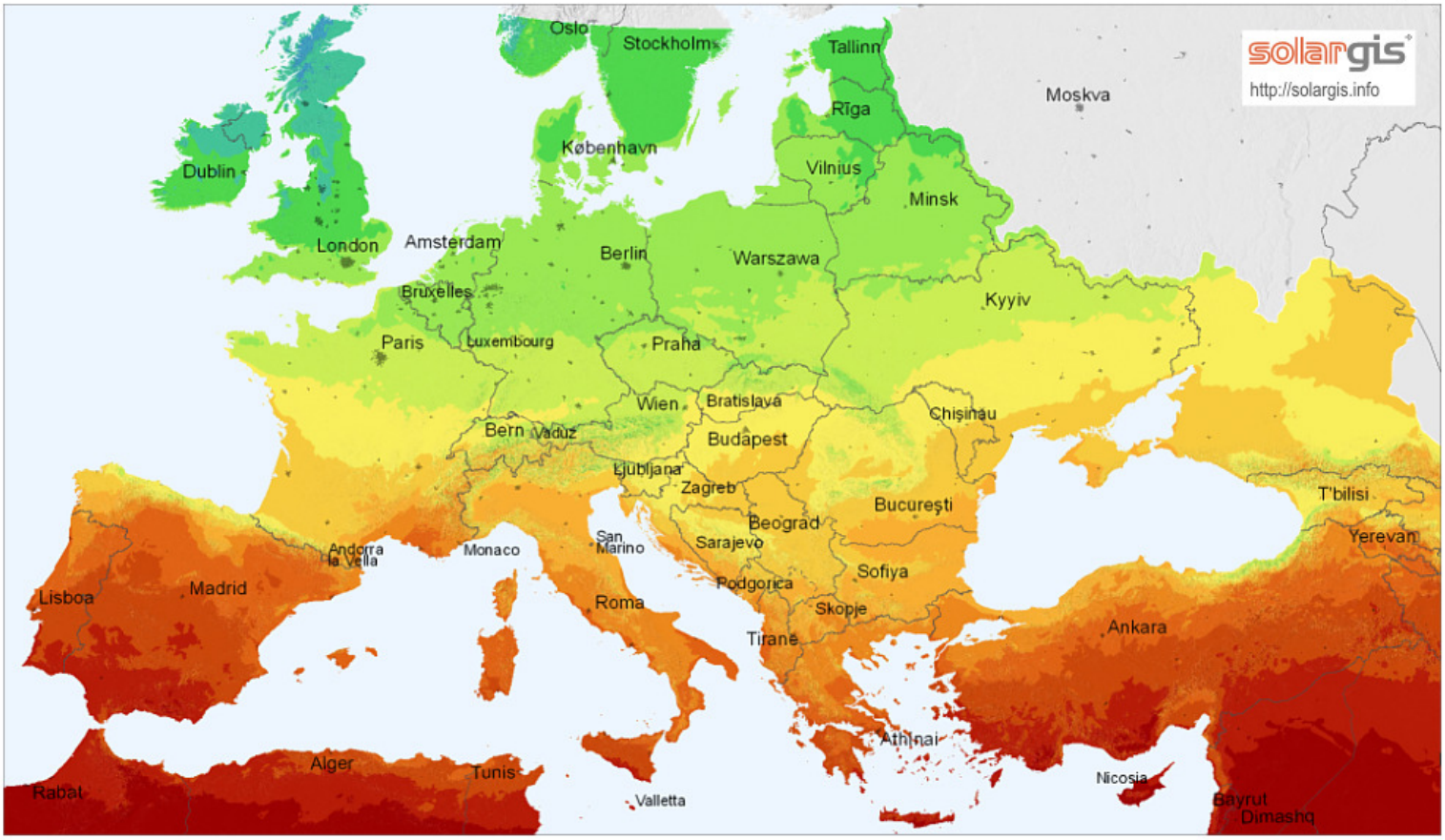


Measurements of pressure drop in Solar Air Collector versus air flow.

Source: Fraunhofer Institute

SolarVenti®

Global horizontal irradiation — Europe



Average annual sum (4/2004 - 3/2010)

< 700 900 1100 1300 1500 1700 1900 > kWh/m²

0 250 500 km

Calculating max. energy output:

Max. energy output = **Irradiation [kWh/m²] x efficiency [%] of chosen Solar Collector**

Example :

Germany average power (illustrated above)
SolarVenti® Professional (data page 5)
Chosen air flow: 125 m³/m² Solar Air Heater (page 6)

1060 kWh/m² x 70 %

Max. energy output = 742 kWh/m²

SolarVenti Professional

114 modules on roof of garage, Canada

Maintenance.

Surface:
Normally, it is not necessary to clean the surface of the collector.
It can be washed down with water and mild soap if necessary (do not use solvents).

Filter:
The filter requires no maintenance.
Activating a by-pass or stopping the ventilation generates higher temperatures inside the Solar Air Collector.
At temperatures above 80 degrees C, the filter is self-cleaning.

Expected life time**:**
Minimum 15 years.