Dry and hot air with SolarVenti®

Ventilation, dehumidification, heating

SV7 on the wall

SV30 on the roof

Ventilation

Ventilation is a key factor regarding the state of every building.

Stagnant indoor air increases the risk of fungi, rot and other unwanted consequences.

For the same reasons ventilation requirements are described in regulations for building construction and renovation.

A solar air collector is a cost effective way to solve both the ventilation problem *and* to comply with current regulations for ventilation of buildings.

Dehumidification

A solar air collector contributes to keep the relative humidity indoors at a beneficial level.

Using the heat and ventilation capacity from the solar air collector, it contributes to the dehumidifying f the building.

The result is:

1. Improved indoor air quality
2. Improved lifetime of the building and its effects.

All in one unit

NO RUNNING COSTS!

5 YEAR WARRANTY
ROI of 2—5 years

Heating.

The solar energy is used to preheat the air, before this is blown into the building.
The air transport is done by the built-in solar-powered fan.

The result is a contribution to heat the building and thus a saving on heating bills.

SolarVenti®

Solar Air Collectors for ventilation, dehumidification, heating

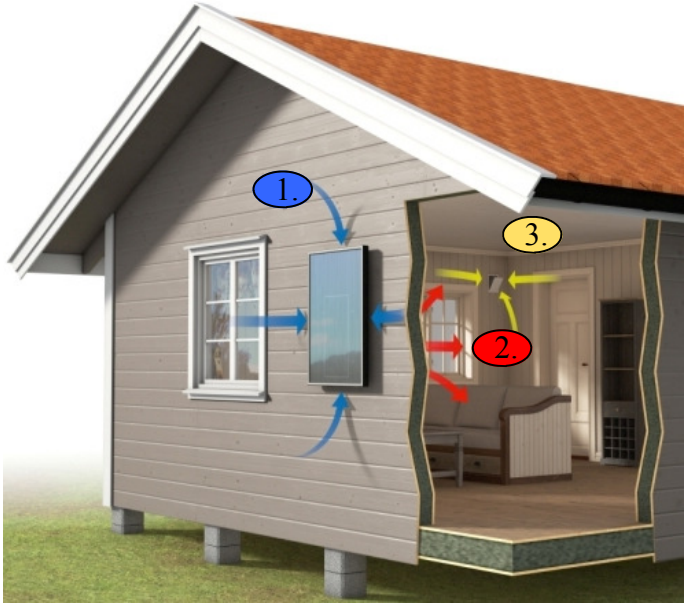
FUNCTION AND PLACING

Funktion:

1.
Outdoor air is pulled from the rear plate of the solar air collector.

2.
When sun is shining, the built–in solar cell poweres the built-in fan, and **warm** and **dry air** is blown into the building.

3.
The bad **indoor air** is removed through ventilation gaps.



NEW PATENT:

Humidity Stop stops condensation, and draft.
For mounting inside the ventilation valve

PATENTED SOLUTIONS :

1. Perforated back plate with built-in filter	→ no filter replacement →	Patented	√
2. Air control for perfomance optimization	→ high air quantity →	Patented	√
3. Protection against cold air and condensation	→ high comfort →	Patented	√

Placement:

Installed facing south as much as possible.

Can be mounted horizontally or vertically.

Can be mounted on a wall or on a roof with specially designed roof rack.

When placed 45 degrees from due south the system also works, but with an approx 10% lower performance.

HEATING

A SolarVenti air collector contributes to the heating of the house.

The heat output is up to 2100 kWh/year under Danish conditions (see back page).

The dry air supply results in lower costs to heat up the house by means of the primary heat source (electricity, gas, oil etc.)

Regardless of the heat source savings will be noticeable, and consequently the payback time for a SolarVenti is very short!

5 YEAR WARRANTY
ROI of 2—5 years

SolarVenti®
Solar Air Collectors for ventilation, dehumidification, heating

DEHUMIDIFICATION

SolarVenti uses the heating of outdoor air as a means of dehumidification.

The sun preheats the air in the panel to a temperature which is higher than the indoor temperature.

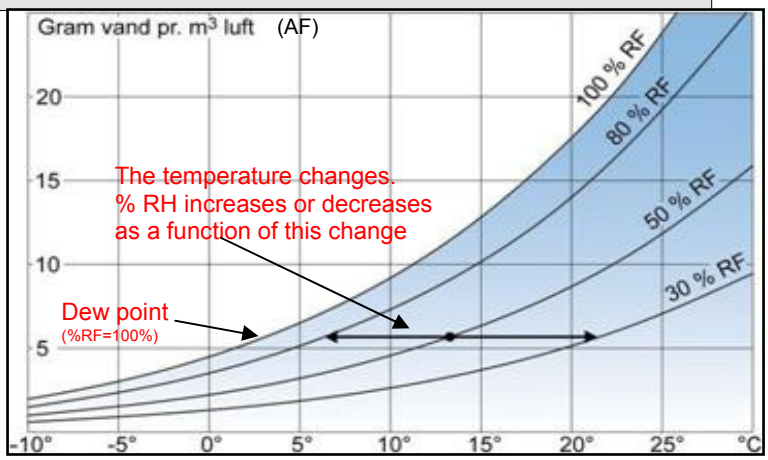
This heated air is blown into the building.

As illustrated below, warm air can contain more moisture than cold air, and the system is thus able to dehumidify a building through the venting provided by cracks, fissures or valves.

Relative Humidity (RH).
The water vapor quoted in % in ratio to the maximum humidity at the temperature in question.

Absolute Humidity (AH).
The amount of water vapor in gram per m^3 air.

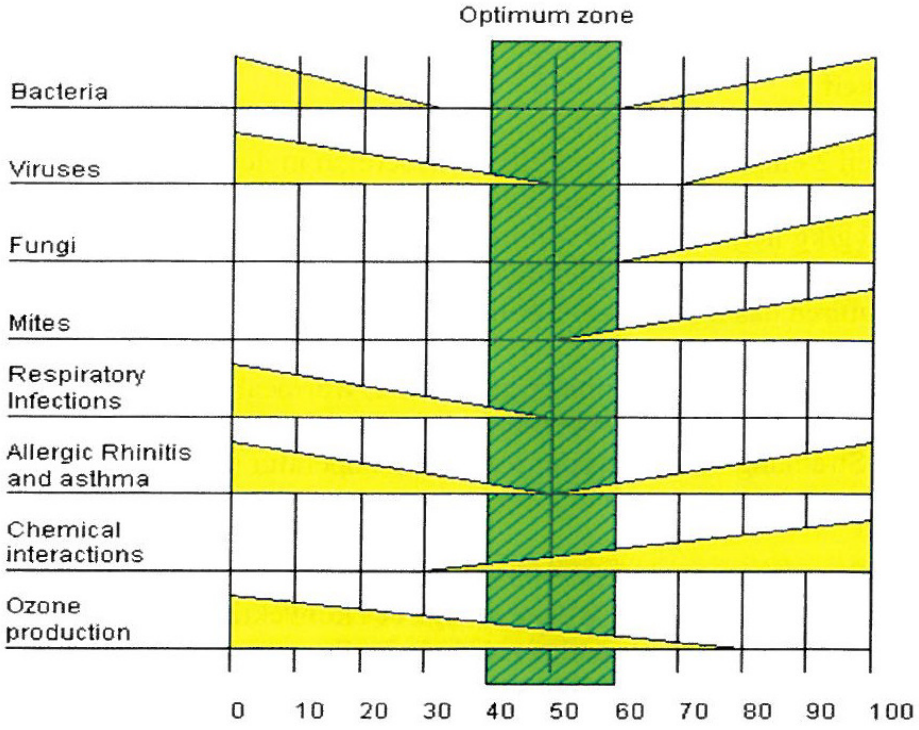
Dew Point.
The temperature below which the water vapor in a volume of humid air will condense into liquid water at the same rate at which it evaporates.



DEHUMIDIFICATION
requires energy in the form of heat.

If the temperature drops from 13 ºC at a relative humidity of 50% to 7 ºC the relative humidity rises to 80%.
A further reduction by 4 ºC leads to condensation on surfaces (dew point) and may result in an attack by rot, fungus etc.

Optimum level (for *comfort as well as building quality)* is a relative humidity *(RF)* of 40—60 %.



Source: ASHRAE Journal (The American Society of Heating, Refrigerating and Air-Conditioning Engineers)

SolarVenti®
Solar Air Collectors for ventilation, dehumidification, heating

5 YEAR WARRANTY
ROI of 2—5 years

SolarVenti®

- a fresh and warm solution

Product information:

Producer: SolarVenti A/S, DK-8881 Thorsø, Denmark

Model	SV3	SV7	SV14	SV20	SV30
Recommended maximum area in m^2	25 m2	50 m2	80 m2	100 m2	150 m2
Maximum air flow - m^3 / hour	35 m3	90 m3	110 m3	140 m3	200 m3
Expected time for air change	< 2 hours				
Utilization of solar irradiation	57%	62%	66%	67%	70%
Estimated average energy supplement kWh/m^2 per year *	570	620	660	670	700
Estimated energy supplement kWh/SV-unit/year *	200	434	924	1.340	2.100
Temperature rise relative to outdoor temperature, approx.	15 ^{0} C	15 ^{0} C	30 ^{0} C	35 ^{0} C	40 ^{0} C
Dimensions (panel) in mm: L x B x D, excl. packaging	524 x 704 x 55	1004 x 704 x 55	1974 x 704 x 55	1974 x 1004 x 55	3000 x 1020 x 75
Dimensions (panel) in mm: L x B x D, incl. packaging	900 x 600 x 140	1190x 770 x 150	2170 x 770 x 150	2170 x 1040 x 150	3060 x 1060 x 90
Dimensions (roof rack) in mm: L x B x D, incl. packaging	*Not available*	790 x 260 x 220	790 x 260 220	1080 x 260 x 220	1080 x 260 x 220
Area in m^2	0,35	0,7	1,4	2	3
Solar cell - perfomance in watt	6 watt	12 watt	12 watt	12 watt	18 watt
Fan—performance in watt	3,4 watt	3,4 watt	3,4 watt	3,4 watt	5,1 watt
Weight (panel) – kg excl. packaging	5,5	8	14	15	29
Weight (panel) – kg incl. packaging	8	14	19	21	31
Weight (roof rack) – kg incl. packaging	*Not available*	5	5	7	7
Maintenance	Maintenance- free up to 15 years				
Product warranty	5 years				
Frame material (alloy is salt resistant)	Aluminium				
Air outlet – dimensioner – mm	125 mm				
Coating	Polycarbonate				
Injection valve for indoor wall	Yes	Yes	Yes	Yes	Yes
Patented moisture stop for counteracting condense and draught	Yes	Yes	Yes	Yes	Yes
Tubes for wall lead-in, gaskets, screws etc.	Yes	Yes	Yes	Yes	Yes

* Annual kWh solar irrradiation/m2 in DK – 60 degrees slope in Danish weather conditions. Value: 1,000 kWh/m2/year

Subject to data alterations and printing errors

Accessories:

Model	SV3	SV7	SV14	SV20	SV30
Cooling or exhaust device with extra solar cell		X	X	X	
Cooling or exhaust device without extra solar cell					X
Horizontal ground cooling device		X	X	X	X
Roof rack, type 1 for tile and cement tile		X	X	X	X
Roof rack, type 2 for steel and asphalt roofing		X	X	X	X
Basement kit		X	X	X	X

More than 55,000 SolarVentis already sold (April 2013)
Have your local dealer demonstrate the product for you.

For further information see:
www.solarventi.dk

SolarVenti®
Fabriksvej 8
DK-8881 Thorsø

Distributor: