

**Fully
ready for operation:
TWINSOLAR
Compact 1.3 - 6.0**

For up to 100 m² of living area; independent system with integrated photovoltaic technology, therefore also ideal for holiday homes. Ventilator, filter and start-up thermostat are fully integrated in the collector.



For larger houses there are independent TWINSOLAR systems with an external ventilator up to 12,5 m².

**... and it's mounted in
a blink!**

**Heating, ventilation and
warm water:
TOPSOLAR
8.0- 12.5
with Solarbox SLK**

The complete solar solution for residential applications: the solar installation ventilates and heats until the rooms are warm enough. The installation then automatically switches over and heats the service water.



For larger buildings: JUMBOSOLAR 20.0 - 40.0 with Solarbox GLK.

**... brings old buildings
into the solar age!**

**JUMBOSOLAR
JUMBOSOLAR 20.0
- XXL**

JUMBOSOLAR brings large quantities of air and heat into the building. JUMBOSOLAR 20.0 is ready to use and ventilates with 650 m³/h with a peak performance of 13.4 kWth.



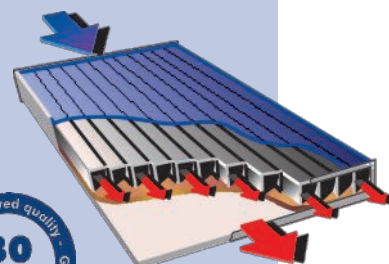
If even more warm air is required, we will tailor the system specifically to your project.

**... simple and reliable
in operation!**

**German quality
... state funded**

We have been developing and producing our SolarAir collectors on our own premises in Amberg, Germany to meet the highest quality standards for over 30 years. They are extremely robust, allowing them to be used over many decades.

SolarAir collectors by Grammer Solar are state-funded in Germany and in other countries.



Always on the sunny side

Solar collectors are mounted on the roof, on the facade or even on a balustrade, facing the south, south-east or south-west, wherever the sun reaches the building most effectively.

Assembly packages tailored to the respective systems provide for a flexible and simple installation of the systems.

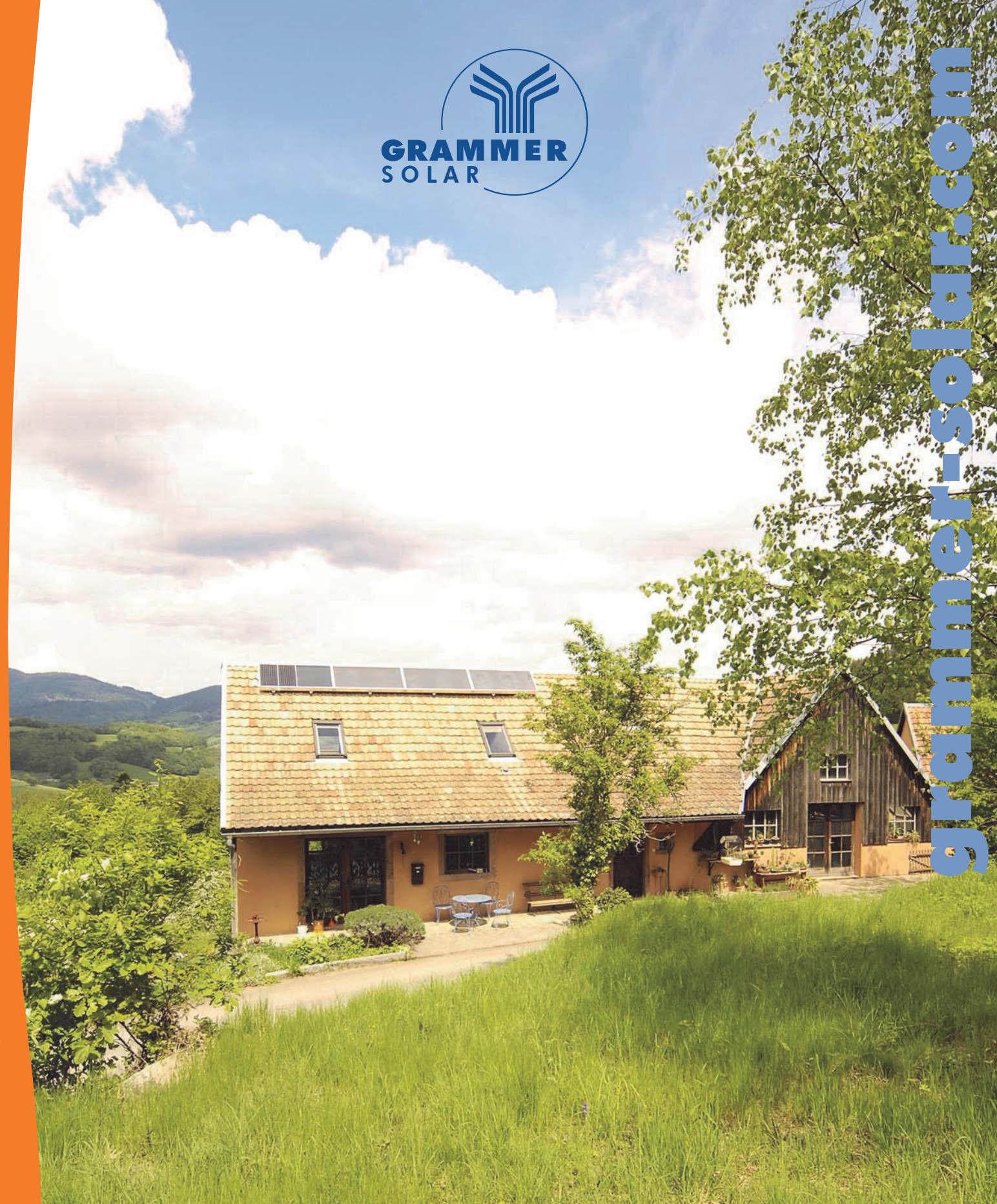
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09/11 - www.webfriends.de

N° 0153100002-09-2011 | Image: Detached house in Orbey, TWINSOLAR 8.0



SOLARVENTILATION

Simple and efficient...even when there's no-one at home

Ventilate and gain energy, avoid dampness and mould

grammer-solar.com

SolarVentilation - simple and efficient ... even when there's no-one at home

Ventilation is not a luxury

Fresh air for healthy living

Poor air is unpleasant and unhealthy. If there is insufficient ventilation, the air does not contain enough oxygen; unhealthy out-gases accumulate from furniture and textiles. Problems with dampness and mould develop.

Energy saving and quality of living



In general, not only the consumed air escapes from the building but also valuable heat. Therefore, energy-saving buildings have to be built as insulated as possible.

Nowadays, windows in new buildings are very good insulated so that no air can escape from indoors. This can cause dampness and mould inside the room if the windows aren't constantly open for ventilation. Alternatively, a ventilation system can be installed - a solar energy integrated ventilation system would be ideal.



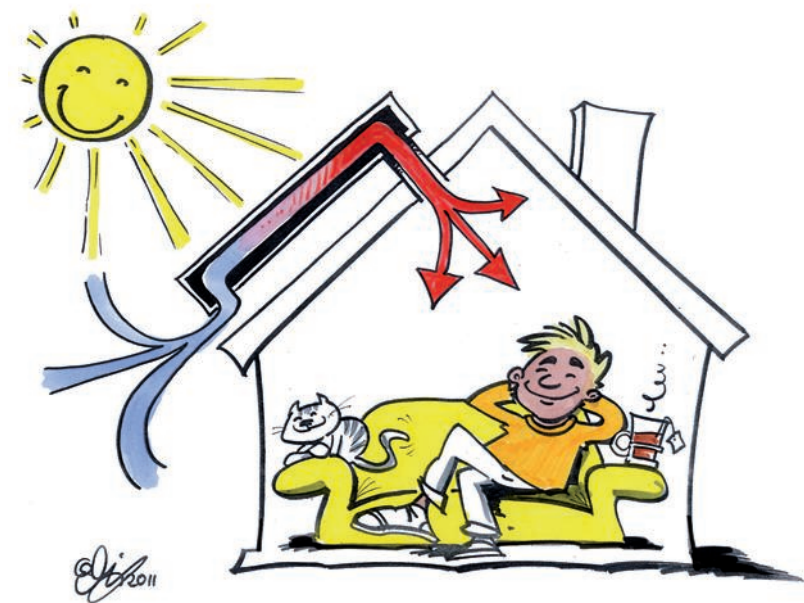
Not used in winter

Many holiday and weekend homes, club houses as well as studies and guest rooms are not constantly used in the winter and are therefore not regularly heated and ventilated. The rooms and the stock become damp, moist and mouldy. With a solar caretaker from Grammer Solar such problems become a thing of the past.

Dampness and mould

A musty smell is not only unpleasant but also extremely unhealthy if mould spores wreck havoc. Furthermore, the dampness results in expensive damage to textiles, furniture and also the structure of the building.

Only adequate heating and ventilation - with SolarAir for example, can provide a permanent remedy for this.



The sun ventilates fully automatically and with an energy gain

SolarVentilation: simple

As soon as sufficient sunlight falls on the collector, a ventilator starts. Fresh outside air is filtered and drawn in through the heat-insulated air collector. In doing so, the air heats to up to 40°C. (Air heating average in the winter ~17°, during the changing of seasons ~30°). The warm air now enters the house via an insulated pipe.

...and efficient

With only 1m² of collector surface area, 15m² of living space can be well ventilated and kept dry in Germany (in the south up to 30m²). Mould and damage caused by dampness are a thing of the past. In exchange for this, the interior air is completely exchanged on average 1-2 times on winter days or 4-10 times in spring and fall.

Even when there's no-one in

A SolarAir installation by Grammer Solar is fully-automatic and reliable in operation. Freezing, leaking and evaporating are completely impossible with air collectors. If no heat is required on sunny days, the installation automatically switches off.

Change the filter once a year - apart from this there are no other operating or maintenance costs.



Legal provision

In most of the European countries a minimum exchange of air in new buildings and during renovation projects must be guaranteed.

As soon as the imperviousness of the building shell is improved by means of new windows, for example, a ventilation concept is required. Irrespective of the user behaviour, a sufficient flow of fresh air must be ensured - with a SolarAir installation for example.

