SAM could be just what you need!

It is recommended to install your SAM collectors at a high angle (approx. 55 degrees depending on latitude) to capture the maximum available amount of heat in the collector during the cooler months of Autumn, Winter and Spring.

SAM can be installed individually or in a bank with up to 5 collectors per fan. Multiple SAM collectors in a bank increase the temperature of the air supplied by the system into your home.

SAM units are normally roof mounted, but for smaller installations, may be wall mounted. Mounting kits for the different standard configurations are available for both tile and metal roofs.

Each air supply requires a fan kit including a thermostat. Both 8 and 16 watt fan kits are available and are used depending on the number of modules and the application.

Sam Heating and Ventilation Systems help Australian homes and businesses stay comfortable by providing free heating from the sun. SAM also increases the efficiency of existing heating as well as improving indoor air quality.

SAM is also a great way to make your home or work environment free from mould, mildew, humidity and condensation concerns.

GES is the Australian solar heating, cooling and ventilation specialist. We have sustainable and cost effective ventilation solutions for your home, business, caravan, boat, car and more! To find out more about these products please visit : www.ges.com.au

Global Eco & Environmental Solutions
Visit our showroom at:
205 Elgar Rd, Surrey Hills, Vic 3127

Call us: 1300 655 118
www.heatwithsolar.com.au

Or contact your local dealer:

SAM Applications

- New & Old Homes
- Offices
- Holiday Houses
- Schools
- Day-Care Centres
- Sports clubs
- Self-contained Accommodation
- Community Buildings
- Granny Flats
- Drying Rooms
- Sheds
- Indoor Pools
- Sub-floor Ventilation
- Workshops

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Stay warm and dry with SAM this winter!

SAM effectively harnesses the energy created by the sun and transfers it without any running cost whatsoever!

A SAM system contributes towards the heating, while ensuring a healthy and comfortable indoor climate. The fresh, preheated air produced by SAM also combats condensation and reduces the risk of mould and mildew.

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**The SAM Concept**

- SAM collectors are designed to allow you to select the optimal number of Solar Air Modules for your home or commercial building and offer maximum flexibility in installation and location of the modules.
- In Australia we receive heat radiation up to 1,100 watts per square metre during Spring/Autumn and 1,000 watts per square metre in Winter. SAM helps you effectively direct this heat into your home or commercial building whilst improving the indoor climate by ventilating the building with fresh preheated air.
- The fresh, preheated air reduces condensation, mould, mildew, musty smells and dampness.
- A SAM system will increase the baseline temperature which makes it much easier for your existing heating system to reach or maintain your desired temperature.
- The warm dry air from the SAM collectors reduce the amount of moisture accumulated in the building, which means that the efficiency of existing heating will be increased. The higher the humidity levels in your home, the more noticeable the benefit of the drying effect will be.
- The fans are designed for the highest level of performance with our custom made solar panels, ensuring the SAM systems operate even in partially overcast conditions.
- The solar operation ensures that the fan runs at correct speed and the system operates when beneficial - without any cost.
- SAM is thermostatically controlled ensuring warm air is only being brought into the house when required.
- The excess power from the PV panel may, via the thermostat, be used to power an in-ground cooling system or a solar heat extraction fan, if desired.

**SAM Operating Principle**

The SAM collectors have been designed as the centre piece of our complete Solar Air Heating and Ventilation Systems; incorporating PV panels, solar fans and mounting systems. These systems require no external power supply and therefore operate without any ongoing costs. If desired – SAM may also be operated using a low voltage power supply controlled by a differential temperature thermostat.

In a standard installation a PV panel powers a solar fan, mounted in a convenient and effective position for supplying warm dry air into a building.

The fans will draw fresh air through a filter and into the collector, where the sun will heat the air before it is supplied into the building. The number of modules used will depend on the area to be ventilated and/or heated.

There are many views on how to optimise solar heating, however, an effective collector is always required! If you have your own view, SAM may be used in powered systems with a variety of airflow volumes, as well as different types of controls and thermostats. Operating SAM with a powered differential temperature thermostat allows you to maximise running time and benefits, by giving the option of operating the system regardless of solar conditions.

During warm weather, this option also enables the system to take advantage of the night sky’s radiation principle to introduce cool air into the building at night.

A bank of collectors may also be used as a simple and cost effective way of pre-heating air for ventilation and air condition systems. SAM is even used for boosting performance of roof based heat recovery systems.

**Mounting Hardware**

SAM units are mounted on a tilt frame racking system allowing for the collector angle to be adjusted to maximise the solar gain. The collectors are positioned and secured by custom made clamps similar to the type used for the PV panels.

**Benefits**

- Provides free heat from the sun
- Increases efficiency of existing heating systems
- Ensures a healthy & comfortable environment
- Keeps buildings fresh & dry
- Eliminates mould & mildew
- Improves air quality
- Minimises condensation
- Simple installation
- Saves you money!

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Solar Air Module for heat collection and ventilation</td>
</tr>
<tr>
<td>Colour</td>
<td>Anodised Aluminium</td>
</tr>
<tr>
<td>Material</td>
<td>Aluminium Frame and Back</td>
</tr>
<tr>
<td>Duct Diameter</td>
<td>150 mm</td>
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<tr>
<td>Dimensions</td>
<td>1000mm x 1000mm x 92 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>14kg</td>
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<tr>
<td>Shipping dimensions</td>
<td>1120mm x 1120mm x 140mm</td>
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<tr>
<td>Shipping weight</td>
<td>15kg</td>
</tr>
<tr>
<td>Front Cover</td>
<td>4 mm Safety Glass Tempered and Patterned</td>
</tr>
<tr>
<td>Filter</td>
<td>3mm Felt</td>
</tr>
<tr>
<td>Solar Panel</td>
<td>Mono Crystalline</td>
</tr>
<tr>
<td>Fan alternatives</td>
<td>8 Watt/12V DC 1600 RPM (40 dBA, Max. 300 m3 per hour)</td>
</tr>
<tr>
<td></td>
<td>16 Watt/12V DC 2300 RPM (43 dBA, Max. 450 m3 per hour)</td>
</tr>
<tr>
<td>Heat Extraction Fan</td>
<td>Includes Thermostat</td>
</tr>
<tr>
<td>Roof Mounting Kit</td>
<td>Includes Thermostat</td>
</tr>
<tr>
<td>Options</td>
<td>Heat Extraction Fan</td>
</tr>
<tr>
<td></td>
<td>In Ground Cooling System</td>
</tr>
</tbody>
</table>

**Estimated Temperature**

- Rise (above ambient temp) with 8 watt fan.
  - Clear sun - midday
  - (43 dBA. Max. 450 m$^3$ per hour)
  - 1 unit: 15°C
  - 2 units: 24°C
  - 3 units: 32°C
  - 4 units: 39°C
  - 5 units: 45°C

**In Ground Cooling System**

- Includes Thermostat

**Ventilation area**

- 80 Square Metres
- 30 Square Metres

**Heat Contribution**

- per module (approx.)
- 30 Square Metres
- 80 Square Metres

**Options**

- Fan Kit (1 per unit)
- Includes Thermostat
- Roof Mounting Kit
- Heat Extraction Fan
- In Ground Cooling System

* Global Eco & Environmental Solutions reserves the right to alter any of the information in this document without notification.