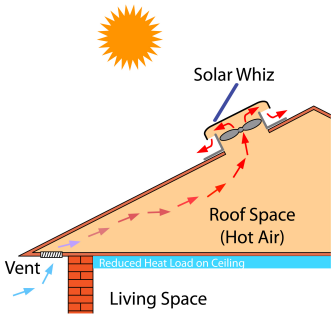
Solar Whiz Sales Manual

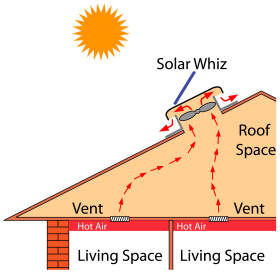
What is a Solar Whiz? The Solar Whiz is a Solar Powered Fan.

What does it do? The Solar Whiz does all of the things listed below:



1/.Heat extraction from the roof of homes or buildings.
The Solar Whiz removes the hot air that accumulates in the roofs of houses and buildings. By removing this hot air it reduces the temperature in the roof from up to 70 degrees down to the outdoor ambient temperature. This reduction could be up to 30 degrees, however efficiency is subject to availability of replacement air. The Solar Whiz models have a capacities from 1400 to 3000 cubic meters of air per hour depending on what size unit you use. Changing the air in your roof 3-5 times per hour will allow you to reach temperatures only a few degrees above the outside ambient temperature.

What is the benefit for the home owner? SAVES MONEY.
Being solar powered the unit it has no running costs**, it is FREE TO RUN.** Heat that accumulates in the roof of houses and buildings builds up and radiates down – warming up the whole building. Installing a Solar Whiz prevents these unnecessary heat gains. High roof space temperatures also reduce the efficiency of cooling systems by up to 20%. The Solar Whiz reduces the amount of time you need to run cooling systems and increases their efficiently when they are running, saving money on power bills.



2/. Heat extraction from inside the house or building.
Solar Whiz can also remove the hot air directly from specific rooms. By installing a closeable vent in the ceiling of the warmest room(s) and opening the vents into the roof space you allow the Solar Whiz to draw the air directly from targeted rooms. This is particularly, useful in double storey houses where stairs act as a heat chimney.

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What is the benefit for the home owner?

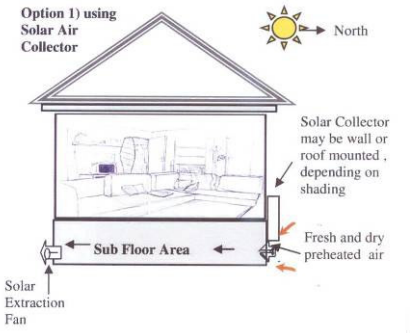
- **Improve indoor comfort levels.** Some houses have very hot rooms, particularly on the west side of the house, and/or upstairs areas. By installing closable vents in the ceiling, hot air can be drawn directly out of particular rooms or an upstairs areas, creating a much more comfortable environment, without having to run additional cooling systems.

- **Improve indoor air quality and eliminate mould/ mildew problems.** Some houses suffer from mustiness and mould or mildew problems; this can be eliminated by installing closable vents into the ceiling of the affected area. The Solar Whiz will draw out the stale damp air allowing fresh air to flow through the house. This method is mainly used in warmer weather.

- **Reduce indoor humidity levels.** In areas of high humidity any time the home is not occupied or the air conditioning is not running humidity builds up indoors. By installing closable vents in the ceiling, the Solar Whiz will draw the humid hot air out of the house. When returning at the end of the day the house will have been ventilated with outside ambient air and should therefore be fresher and dryer.

3/. Ventilate Sub Floor areas

The Solar Whiz has a gable mount version that can be mounted into the external wall of buildings. This can be used to ventilate Sub Floor areas, by drawing air in through the sub floor vents, creating cross flow ventilation by drawing outside air over the damp soil effectively drawing out the moisture over time. The Solar Whiz then expels the stale damp air outside the building. The advantage the Solar Whiz has over powered fans is that they run when the sun is out and the air therefore relatively dry – unlike timer operated fans which may be bringing moisture in under the building when it is raining.



The Solar Whiz gable mount version comes with an external PV panel that can be mounted either on a north facing wall or roof. Being Solar powered the Solar Whiz will only operates when the sun is shining and when the outside air is dry. This means only relatively dry air will be drawn into the Sub Floor aiding the drying process. If air is drawn in when it is raining or at night it is generally adding to the damp under the Sub Floor not reducing it.

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Sometimes the Solar Whiz gable fan in the wall may be sufficient to provide the ventilation in the subfloor required – but often in order to ventilate the whole sub floor connecting it to ducts to suck air from “dead pockets” is necessary for the system to be effective.

What is the benefit for the home owner? The benefit is to reduce **/** eliminate damp problems that can cause rising damp, mould, mustiness, rotting floor boards/stumps and attract white ants etc. for a relatively low cost. The Solar Whiz being solar powered has no running costs and is whisper quiet.

Sub floor Ventilation with a roof mounted Solar Whiz. Sometimes, you may be unable to fit a Solar Whiz gable fan on the wall of the sub floor. On these occasions it would be worthwhile considering to install a roof mounted Solar Whiz and connect it to the subfloor via a duct through a cupboard – or a boxed in duct.

Solar Whiz Gable Mount

Why Solar Whiz?

Replacement air

In order for any Solar Whiz installation to operate effectively – replacement air must be accessible e.g. via eave or ceiling vents -or for sub floor applications via vents into the sub floor area to provide cross flow ventilation.

200mm Ceiling Down jet

Eave Vent

Sub Floor Vent

How is it different from other brands

- Designed for Australian roofs – Most other brands available have been designed for the American market - I.e. designed for shingle roofs – with a rigid steel flashing, making it very hard to install on corrugated and other metal roofs as well as tiled roofs.

Solar Whiz has a 0.9 mm aluminum flashing which is very easy to shape to the relevant roof type making it fast and easy to install

- Solar Whiz offers the most powerful Solar Heat Extraction fan on the Market – SW3000
- Solar Whiz also offers the quietest operation on the market 40 dBA (SW1400)

Solar Whiz Flashing

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- Night operation – if the customer wish to run the fan at night to continue to lower the temperature in the roof (and the house - if ceiling vents are installed) – SW offers a night operation kit consisting of a relay with mounting plate and a 12 volt power pack, which automatically switches to the power pack, when there is insufficient sun to power the fan.
- Thermostat. The Solar Whiz may be thermostatically controlled – so that it only operates when required. This is generally always recommended for the night pack.
- Stainless steel fasteners (SS316)
- Stainless steel 304 hinges
- Body made of Alloy not steel – making it lighter and much more durable
- High quality Automotive paint

Adjustable Thermostat

SOLAR WHIZ MODELS & OPTIONS

I have included a description of all of the Solar Whiz Models and Options below, **please take the time to read this information**, so you are completely familiar with all of the functions of the Solar Whiz Product Range.

Solar Whiz Models Available:

Solar Whiz Roof Mounted

Solar Whiz Gable Mounted

You will note that each of the Solar Whiz sizes SW1400, SW2100, SW3000 are available in the following models:

- Roof Mounted (With or without solar panels) – without PV – is not always available
- Roof Mounted (Bush Fire Rated) – Due to reduced airflow Sw1400 is not stocked in BF version
- Gable Mounted (With or without solar panels)

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The **Solar Whiz Bush Fire** model is available for the Roof Mount model of the Solar Whiz only. It has been specifically designed to comply with the Australian Standard for construction in Bush Fire Prone areas. The unit has smaller grade mesh (average 1.5 mm openings) to comply with the Bush Fire Standards. **The mesh will reduce the air flow of the Solar Whiz by approximately 30%.** This means when sizing the system you will need to go up one size, to get the equivalent air flow.
The extra cost for the BF model is $50.00 per unit.

Solar Whiz Gable Mount
The **Solar Whiz Gable Mount** units can be used when roofs have a gable. When mounted in the gable the fan unit is not visible, this could be very popular with customers who don't like the look of the Solar Whiz mounted on the roof.

When using the Gable Fan you will normally need a Gable Vent to cover the units. The Gable Vent GES has sourced is included in the options price list – but customers may prefer a different design to suit their house.

Gable Cover

Solar Whiz Gable Mount

The Solar Whiz Gable Mount unit can also be used in sub floor ventilation applications. The Solar Whiz Gable Mount unit can be mounted in the sub floor wall (covered by the gable vent or alternative mesh/louver etc.), the solar panel can them be mounted on the roof or alternatively using brackets on a roughly north facing wall. Mounted this way the Solar Whiz Gable Mount unit is an extremely effective way to ventilate sub floor areas, as it offers very high airflow rates – and only operates when it is beneficial to replace the air under the house, i.e. when the sun is out, which generally means that the relative humidity is lower than at night and of course when it is raining.

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Gable Mount Installed in Sub Floor **Sub Floor Ventilation**

Solar Whiz Options Available:

Thermostats are available in both fixed and adjustable**.** With a thermostat installed the Solar Whiz will only operate when the temperature exceeds the temperature set on the thermostat.

The fixed thermostat is set to 30 degrees Celsius, and is usually installed in the roof cavity close to the Solar Whiz unit.

The adjustable thermostat is adjustable and has an on/ off switch on the side of the unit. The adjustable thermostat can be installed in the roof cavity or in special cases a room below the unit, so it can be easily adjusted.

Adjustable Thermostat

Vents

Both eave vents and gable vents are available for the solar whiz.

Eave Vent

Eave Vents are made from galvanized steel with a hole size of 1.9 mm and comply with the Australian Standard "Eaves ventilation openings greater than 3 mm shall be fitted with ember guards made of non-combustible material, or a mesh, or perforated sheet with a maximum aperture of 2 mm made of corrosion-resistant steel for construction in Bush Fire Prone areas".

Eave Vents should always be installed when installing a Solar Whiz to allow sufficient air flow through the roof cavity**.**

A minimum of four eave vents should be used for each installation, one vent on each side of the house, to allow even air flow into the roof cavity.

If the house has no eaves then an alternative must to be found. You can use tile vents, or cowls located on the lower part of the roof houses. Remember, air behaves like people – it takes the path of least resistance – meaning that the Solar Whiz will draw most air from the biggest or nearest vents. Another alternative would be to use a gable vent located opposite the SW fan (if the house has a gable) to generate cross flow.

Ceilings vents drawing the replacement air from the house can also be used – and is especially effective for double storey house. If replacement air isn't available by other means you may be able to draw air from into the roof space.

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Gable Vents are available as a vented cover for the Gable Mount Solar Whiz. If you are installing a Gable Mount Solar Whiz, you should also be installing a weather proof cover e.g. the Gable Vent in the price list or a louvre type vent. You will still need to install Eave vents or a gable vent at the opposite gable to allow the airflow in the roof cavity. The Gable Mount vents are a paintable product, so the customer can have it any color they like.

Gable Vent

200MM Downjets/closable ceiling vents are available to draw the air directly from rooms within a house or building. The down jets are closeable so when the building is being heated they can be closed to prevent heat loss.
The most common use of Down jets is to remove hot air directly from hot rooms or upstairs areas of houses.
Down jets are also used to resolve humidity/ damp /mould / /mildew problems within houses. Usually a down jet is installed in the ceiling of a cupboard, walk in robe or room that is affected, but in particularly bad cases a vent may need to be installed into most rooms of the house to allow good air circulation and removal of the damp air from the house. Installing ceiling vents will normally be in addition to eave vents. When installing down jets, it is recommended to increase the size of the Solar Whiz to allow for the extra space being ventilated, as the air is drawn both from the roof space/eave vents and from the interior of the house.

Night Operation Pack is a 12 volt DC power adaptor that is plugged into a regular 240 volt power point, and wired into the Solar Whiz via a relay and din mounting rail. The Night Operation Pack allows the Solar Whiz to operate at night or when there is insufficient sunlight to operate the fan. The main use is to continue removing the hot air from roof cavities on hot evenings/nights. When installing the Night Operation Pack you need to include a thermostat to prevent the Solar Whiz from running 24 hours day. Installing the Night Operation Pack requires a 240volt power point to be available in the roof cavity of the house. If this is not available one will need to be installed.

In Line 150mm Fans are generally used where a Solar Whiz cannot be used for any reason, usually because there is not enough room for the Solar Whiz and occasionally because the customer doesn't want a large hole in their house. Ideally you would always use the Solar Whiz gable fan,

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however, if this isn't possible the 150 mm fan options is a popular alternative.
The 150mm fans airflow rate is (300/450 cbm/h) which is less airflow than the Solar Whiz units. Often multiple smaller fans are installed to provide adequate ventilation.
The most popular use for the In Line Fan is for Sub Floor Ventilation, to remove moisture in low sub floor areas.

Competition – notice that most competing products offer lower airflow rates than our 150 mm 8 & 16 watt fans – even the powered ones – and to our knowledge there are no solar powered fans on the market with a similar airflow.

- The fan is available in two sizes: 8/16 Watt models offering airflow rates of 300/450 CBM/h
- The In Line Fan is usually powered using the 18 Watt PV Panel.
- The 8 Watt unit requires one 18 Watt Amorphous PV panel to operate effectively.
- The 16Watt requires two 18 Watt PV Panels.
- The 18Watt PV Panels are normally mounted on the roof, or roughly north facing wall and wired back to the In Line Fan
- 150mm Flanges are available for the In Line Fan to allow ducting to be connected to the fan.

Ducting – Sub floor

For Sub Floor Ventilation jobs it is a common practice to add ducting from the fan to the center of the building so the air is drawn equally from all sides of the house. The ducting is usually hung from the floor joists using strapping. We expect to be able to supply the ducting in the future.
When using 150mm fans – it is possible to fit 150 mm PVC pipe straight onto the flanges – creating an opportunity to better reach inaccessible areas in low sub floor areas – and remove moist air from there (which will then be replaced by dryer air through vents in the wall(s)

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Mini & Micro Whiz Units are both small solar powered fans that can be used to ventilate small areas e.g.: boats, caravans, individual rooms, granny flats, holiday shacks, sheds etc.

The **Micro Whiz** is a small solar powered fan that is in an attractive water resistant stainless steel casing, so it is perfect for boats & caravans. The Micro Whiz can be mounted on any flat horizontal surface or any north wall. The unit is supplied with rechargeable battery back-up for continuous day/night operation. **Capacity is 19 cubic meters / hour**. The unit has interchangeable fan blades so it can be used as an extraction or air intake fan.

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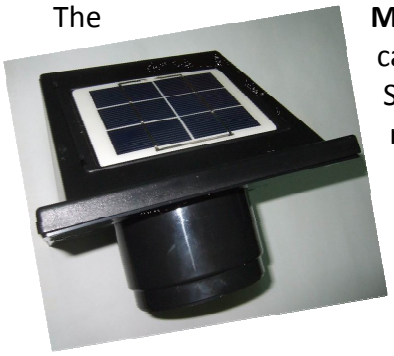

Mini Whiz is another solar powered fan in a black ABS plastic casing. **It has a capacity of 60 cubic meters/ hour**. It has a built in Solar PV Panel, but is also available with an external PV panel if a north facing wall is not available. The unit is designed to be mounted in the walls of small buildings. The unit is supplied with rechargeable battery back-up for continuous day/night operation. The unit has interchangeable fans blades so it can be used as an extraction or air intake fan.

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