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## Whirlybird Roof Ventilators Guide – All About Whirlybirds

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### Whirlybird Roof Ventilators Guide – All About Whirlybirds

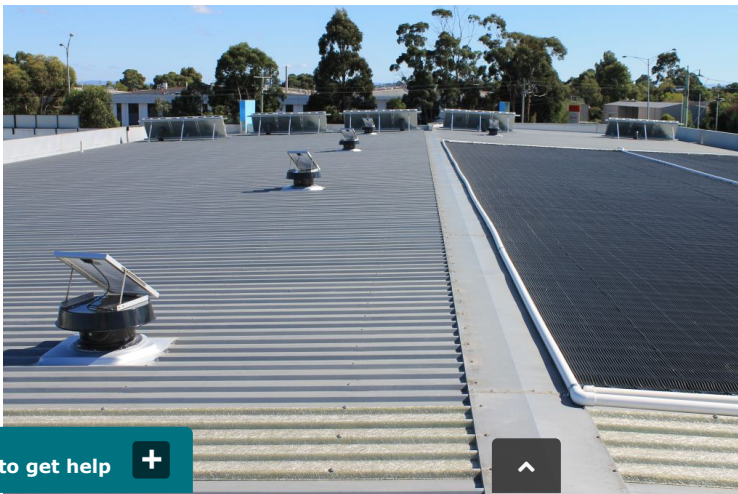
## All About Whirlybirds and Alternative Roof Ventilators

The roof acts as the heat trap of a house.

Like a greenhouse screen, the roof prevents the escape of heat from the roof cavity, allowing heat to circulate and accumulate in the interior of your house. While this may help **during the winter**, it becomes a major problem during hot and sunny days, when the temperature inside the house reaches its peak levels.

During warm weather the sun heats the roof to excessive temperatures (as high as 70 degrees) and as a result the heat starts penetrating the ceiling so that living spaces become uncomfortable. On top of that, household members are placed at a greater risk of developing heat-related illnesses. To compensate for this, ventilation systems and air conditioning systems need to work harder. This, however, causes the household's energy and utility bills to skyrocket.

Hence, the need for efficient **roof ventilators**. Roof ventilators help manage roof space temperatures in summer to ensure not only the comfort of the household members, and they protect the roof from any unwanted deterioration by reducing moisture levels in winter.


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When it comes to roof ventilators, one product often mentioned is a whirlybird. Whirlybirds have been around for decades and are among the first air-driven roof vents to be in the market. But what, exactly, is a whirlybird, and how

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does it work?

Sometimes, also referred to as whirligigs, whirlybirds belong to a kind of roof ventilators that remove accumulated heat in the roof space through convection currents.

There are two basic types of whirlybird roof ventilators: active, powered whirlybirds and passive, wind-driven whirlybirds. The main difference between them is that powered whirlybirds are electrically powered, while the more popular wind-driven whirlybirds are operated by wind and expanding air due to the rising temperature in the roof space. Most people prefer air-driven vents to mechanical ones because they are inexpensive.

Commonly, whirlybirds are made up of a galvanized steel or aluminum exterior. The vent has a fluted head that is set atop ball bearings, which allows the vent to spin. The external appearance of a whirlybird mimics that of a turbine, and that is why it is also often called a turbine vent.



### The Mechanics Behind Whirlybirds: **How do they work?**

The metal top of whirlybird roof ventilators consists of specially engineered fins that scoop the wind. As winds blow through the turbine, the vent rotates. This rotary motion results in a vacuum effect that sucks hot air from the interior of the house.

Basically, heat from the roof space gets drawn upwards and into the whirlybird, which then expels hot air through its vents.

A significant number of whirlybirds will together assist in reducing the built-up heat and humidity, and may also enhance air movement inside the house.

One good thing about this design is that it keeps whirlybirds resistant to rain. When the whirlybird is spinning, its circular force causes water droplets to be tossed off like vented air. Homeowners will need not fear about water entering the roof vent because of the water resistant design of whirlybirds.

### Cooling Ability and Rate of Air Flow: **How Effective are They?**

The effectiveness of whirlybird roof ventilators may be measured through their **air flow capacity**. However, air flow capacity depends on a number of factors, such as its make and model and the wind speed in the area. Performance varies depending on these factors. Given winds of around 12 kph, for example, standard air-powered whirlybirds have the ability to move 8-150 cubic meters of air per hour.

Industrial whirlybirds, on the other hand, can with very strong winds operate anywhere from 2,500 to 5,000 cubic meters per hour. On average, though, whirlybirds need winds of around 8 kph for a satisfactory performance.

### Affordability... **and the price you pay for a whirlybird! Is it value for money?**

A Whirlybird is known for being easy on the pocket. Many of them cost less than \$100, and some can even be bought at around \$60. This is one of the most common reasons why people prefer whirlybirds over other roof ventilation options. However, their affordability seems to come with a price. As manufacturers strive to reduce its cost, certain key features were compromised.

Below are the downsides of purchasing an air-driven whirlybird for roof ventilation.



Guide

› Roof Ventilation – Attic Ventilation With Solar Cooling

› Roof Ventilation in Winter

1. **Dependent on Wind Speed.** Whirlybird effectiveness depends on the wind in the area. If there is no wind, it will not operate (except for the rotation created by the air expanding in the roof space as the sun heats it). This becomes a problem during humid, summer days when the wind rarely blows, as well as in areas where wind speeds don't normally reach 8 kph or more. The only homes that can make the most out of whirlybirds are those situated in windy locations. Otherwise, an air-driven whirlybird is not advisable. Now, the common response to this dilemma is to purchase a powered roof ventilator (mechanical whirlybird) instead. However, powered roof ventilators (whirlybirds) have long lost their appeal to the public as they require an electrician to install and consume energy!
2. **Operate Noisily.** Whirlybirds also tend to become noisy due to the rotation of the turbine. As the turbine spins, it rubs on the other parts of the ventilator, thereby causing a low squeaking or grinding noise. The noise gets louder when the wind gets really strong, or when the turbine is spinning at an high speed. Additionally, whirlybirds may become noisy once their bearings start to come loose, or when it's time for their regular lubrication.
3. **Not Very Efficient.** Whirlybirds are inexpensive, but not very effective in moving enough air in the roof space in comparison to other roof vents. This is due to the design of whirlybirds, which is rather outdated. As a result, one whirlybird will rarely be able to significantly reduce temperature and humidity levels inside a house. Studies reveal that it would take at least 10-15 residential whirlybirds to effectively cool an average-sized house. Imagine if you are to install 10 whirlybirds for your home. That equates to a minimum of \$600, excluding installation fees. Additionally, the noise produced by all 10 whirlybirds can be quite a nuisance for the whole household. An average whirlybird may have a capacity to move around 100 cbm of air per hour (at zero resistance) – whereas powered and solar powered roof ventilators normally start at a capacity of around 1000 cbm/h and goes up to around 3000 cbm/h. Follow this link – If you wish to know more about **Whirlybird flow rates**.
4. **Prone to Malfunctioning.** While they are specially designed to resist rain, whirlybirds may malfunction once they catch leaves or other debris. If a foreign object enters the vents and interferes with the turbines, the whirlybird's spinning capacity is decreased. Often, the foreign object only needs to be removed from the turbine (which may not be that easy given the position on the top of the roof). However, in unfortunate cases where the turbine becomes damaged, the whole vent will have to be replaced.



## Best Roof Ventilation Alternative: Solar Roof Ventilators

One Whirlybird alternative that is worth considering is a solar-powered roof ventilator. As its name suggests, solar-powered ventilators or solar roof vents is a type of roof ventilator that relies on solar energy. Since roofs experience an almost constant exposure to the sun, there are no limitations as to where a solar roof fan can be installed.

As long as there is sunlight, solar roof fans can be installed. Additionally, the roof ventilators will work at their best when the sun is directly atop the roof, exactly the time when temperature levels are at their highest. Another positive thing about solar roof ventilators is that they operate at whisper quiet levels. With their cutting-edge technology, high quality solar roof ventilators like the **Solar Whiz roof ventilation** unit have whisper quiet operation – even in full sun.

Solar Roof Ventilators can incorporate a sleeker design which to most people is less obtrusive on roofs than whirlybirds. On top of that, the roof ventilators' seamless external structure prevents any foreign object from entering. The only disadvantage for **solar roof ventilators** is the higher unit cost. However let's be honest, you want something of high quality and affordable, not something cheap that doesn't do the job. Solar roof ventilators often cost up to five times that of whirlybirds.

But then again – Solar Roof Ventilators are more efficient and are proven to work 10 to 30 times better and more effectively than traditional whirlybird ventilators. In fact, one solar-powered roof ventilator is normally enough to control the roof space temperature of a home. People actually find that solar roof ventilators are far more cost-effective than whirlybirds in the long run.



Conclusion: What is my best roof ventilator option?

Whirlybirds are traditional roof vents that are mainly preferred by customers due to their affordability based on a cost per unit approach, which does not take into consideration the airflow capacity required to effectively ventilate a roof space. Whirlybirds belong to an earlier generation of roof vents and are far surpassed by many high-tech vents today.

When it comes to efficiency, whirlybirds pale in comparison to modern roof vents. Whirlybird performance is also limited as they are wind driven. Modern roof vents may be mains powered or solar powered. Interestingly, solar powered fans available in Australia generally have significantly higher airflow capacity than mains powered roof fans.

To sum it all up, whirlybirds were probably a good roof vent option in the past, however technology has overtaken this design and there are both powered and solar powered alternatives that are both many times more efficient and more cost effective – as you would need a minimum of 10 whirlybirds even on a small house in order to effectively ventilate the roof. Generally the most cost efficient roof ventilation alternative will be a solar-powered roof vent, which are easy to install and don't require an electrician, whilst they have 10-30 times the capacity of a whirlybird – and 2 to 8 times the capacity of popular powered roof vents like the Edmonds Maestro roof ventilator.

If you want to learn more on the topic of roof ventilation, or are interested in roof ventilation installed into your Aussie home or warehouse, you can [Message us on the Live Chat](#) or [Call us on 1300 655 118](#)

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