

## **1. Background and contact information about your business, organization, or company**

We are a small international team pursuing one philosophy.

Aeratron's philosophy promotes harmony between technology and the natural world through design approaches which benefit human habitation and activity. Simple, functional and aesthetic products are our objective. In consultation with end-users, architects, engineers, and industries, we try to create an altogether different class of eco-efficient products.

Since the formation of our team in 2007, two eco-efficient ceiling fans have been developed and are now available in the Australian market and will be launched in the USA in spring 2012.

More eco-efficient and sustainable products are in development and will be coming soon.

Contact details:

Aeratron Pty Ltd  
7 Lauff Road  
Smiths Lake 2428 NSW  
Australia

e [o.stockhausen@aeratron.com.au](mailto:o.stockhausen@aeratron.com.au)

m +61 (0)433 304 654

[www.aeratron.com.au](http://www.aeratron.com.au)

## **2. Detailed explanation of the entry to include**

### **What the entry is and its intended use.**

#### **AERATRON - THE WORLD'S MOST ECO-EFFICIENT CEILING FANS**

As the need for energy-saving systems and energy efficiency have become increasingly urgent, Aeratron represents a game-changing re-think of the way we control indoor air temperatures.

An ultra-efficient new form of ceiling fan, Aeratron uses precisely-contoured aerofoil blades to improve air circulation and create much more even temperature distribution. Virtually eliminating the whirl of other fans, Aeratron runs silently, and with its patented self-balancing technology it provides smooth, wobble-free operation for many years. Powered by an innovative direct current motor, Aeratron uses only a fraction of the energy of the average conventional fan.

#### **CONTOURED AEROFOIL**

Taking cues from aerodynamic organic forms and from the winglets incorporated into the design of contemporary aircraft such as the Airbus, Aeratron's aerofoil blades dramatically improve the airflow efficiency of conventional fans. They not only spread air and temperatures more broadly, they use much less energy in the process. This efficiency creates another significant benefit. Because the angled wing tips drastically reduce the air swirl caused by standard blades, they make the Aeratron virtually silent, even at its highest speed.

#### **PATENTED SELF-BALANCING SYSTEM**

Without Aeratron's patented self-balancing system, its contoured blades would wobble wildly. Even when standard flat fan blades are factory-balanced, they can begin to wobble after only a short while. But with the inclusion of Aeratron's innovative new self-balancing system, with the principle protected by international patents, smooth efficient circulation is assured.

#### **REVERSIBLE DC MOTOR**

In the past fans were made with AC motors, which use between 60 and 120 watts, but very recently, the innovative use of DC motors has seen the development of fans that use from 22 to 35 watts. The super-efficiency of the design of the Aeratron has reduced this by another 20%. Not only is Aeratron's compact DC motor much more energy-efficient, it offers 6 speeds controlled via a remote control, and its action can easily be reversed, so that Aeratron fans can be used to optimise heating as well as cooling.

## ECO-COOL AERATRON

The result of these design innovations is that Aeratron uses only 20% of the energy of the average conventional fan. Because it operates silently and smoothly, and can be used in addition to cross-ventilation and without sealing spaces off to the outside, it provides a uniquely comfortable form of cooling. And it provides this comfort at a fraction of the cost of air-conditioning.

In a room of around 30 square metres Aeratron's airflow efficiency can produce a cooling effect, through evaporation on the surface of the skin, of between four and eight degrees. Very often, this may be all that's necessary. When further cooling is needed, however, Aeratron can be used in conjunction with air-conditioning, and still produce substantial energy savings.

## GENUINE INNOVATION IN AIR CONTROL

While air-conditioners are extremely effective at cooling air there's frequently a six or eight degree variation in temperature from one side of a room to the other due to the location of the units and site orientation. In open plan offices you can find workers shivering at in one area, while others are complaining about the heat in another. Similar discrepancies occur in the home. Used in tandem with Aeratron, the air-conditioner can be set at a much higher temperature, the temperature you actually want to achieve, because Aeratron equalises the temperature throughout the room. Setting the air-conditioner just one degree (centigrade) higher, results in an energy saving of around 10%. So when Aeratron creates a cooling effect on the skin of five degrees, and you set the air-conditioner five degrees higher, you'll use 40% to 50% less energy to achieve the same degree of comfort.

Because Aeratron's DC motor is easily switched into reverse action, the same principle applies to heating, with the fan drawing cool air up from floor level, circulating it broadly, and pushing the warm air back down to create a much more even temperature throughout the room.

Given that buildings consume circa 40% of the world's energy (70% power usage of commercial buildings used for HVAC (heating, ventilation and Air conditioning) Aeratron has the capacity to provide more comfortable living and working environments, used with or without air-conditioning, both cooling and heating, and significantly reduce our use of energy at the same time.

### **How the entry is manufactured and delivered to consumers**

We use synergy effects by outsourcing production to the world's leading high-end ceiling fan manufacturer (ISO certified).

We continuously improve waste reduction in production processes and transport and only deploy low waste procedures e.g. metal spinning instead of dye casting. The materials used for the fans are extremely durable with a life expectancy of more than 30 years per fan.

Packaging materials are all recyclable and most of them also compostable, e.g. egg carton replaces polystyrene packaging.

We sell most products directly through our website and only use excess space available in deliveries to avoid individual delivery.

### **How the entry exhibits excellence in sustainability and environmental responsibility**

Buildings account for 40% of the world's energy use - Commercial buildings use 70% energy for HVAC (heating, ventilation, air conditioning) - Residential buildings use ~50% energy for HVAC.

Aeratron ceiling fans are the only suitable fans for both residential and commercial purposes allowing a reduction in energy consumption for indoor heating and cooling by up to 50%.

The use of Aeratron fans saves energy and significantly reduces carbon emissions worldwide. The benefits of Aeratron fans are improved living and working environments and consequently, better health.

Aeratron currently evaluates investments into several reforestation projects with the objective to become a "carbon negative" company by the end of 2012.

The company won Gold for "Residential Sustainable Design" at the International Design Awards in May 2012.