

ecopower®

LOCATION:

Edmonds Manufacturing Facility
Seven Hills, NSW, Australia

BUSINESS:

Edmonds is a designer and manufacturer of energy efficient natural, powered and hybrid ventilation products.

TASK:

As part of the relocation of Edmonds' manufacturing to a new and larger facility, an ecoPOWER 900 hybrid ventilation system, with integrated temperature control, was installed to improve comfort for employees. The units remove excess heat from moulding and powder coat processes ensuring the constant exchange of air in a building with limited external openings.

SOLUTION:

The ventilation system was designed to provide up to 4 air changes per hour at maximum demand and comprises 22 x ecoPOWER 900 hybrid vents. During mechanical operation each ecoPOWER 900 exhausts 10,000m³/hr and about 3,000m³/hr in wind mode only, (based on testing to AS4740).

Powered operation of the vents is activated at 25°C through an ebm-Papst integrated temperature controller. The controller manages the speed of the motor to try and maintain temperature just below the vents at the target level. At temperatures lower than the set temperature, ecoPOWER 900 operates purely in natural wind mode and works as a turbine ventilator. This ensures air exchange at all times for employees. It also ensures that the light vent system is operating in the most efficient and cost effective manner possible, with a capability to react to changing demands.

Maximum energy demand by the ecoPOWERS is estimated to be 4.4kW while in normal powered operation. To offset this energy usage, a 5kW PV solar array was installed.

RESULT:

The system has been extremely effective, during the initial summer period. It provided an environment where employees could work with good comfort levels. The work area had a reasonably stable temperature level and consistently good air quality.

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Programmable thermostatic controller