

## ebm-papst and CSR Edmonds: award winning partners

ebm-papst and CSR Edmonds have been awarded the 2008 AIRAH achievement award HVAC.

The CSR Edmonds ecoPOWER product is a revolutionary HyBrid ventilation product. Combining ebm-papst EC motors and hurricane ventilation technology, groundbreaking energy reductions and noise reductions have been achieved.



Natural ventilation and in particular wind driven ventilation systems have been with us for many years. They are proven and well used but have limitation with respect to control of ventilation rates. Chimneys, open windows and natural convection can also be exploited but again with limited control and ventilation rates.

	Exhaust rate [l/s]		Power [W]		Noise dB(A) @ 3m	
	Hybrid	Mechanical	Hybrid	Mechanical	Hybrid	Mechanical
EP400	same	same	Save 58%	92	Reduce by 24 dB	62
EP600	same	same	Save 63%	240	Reduce by 33 dB	73

Hybrid ventilation exploits natural ventilation combined with high efficiency mechanical ventilation, like hybrid motor car engines, provides the best of both worlds as shown in the above table.

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Quieter, better fan solutions

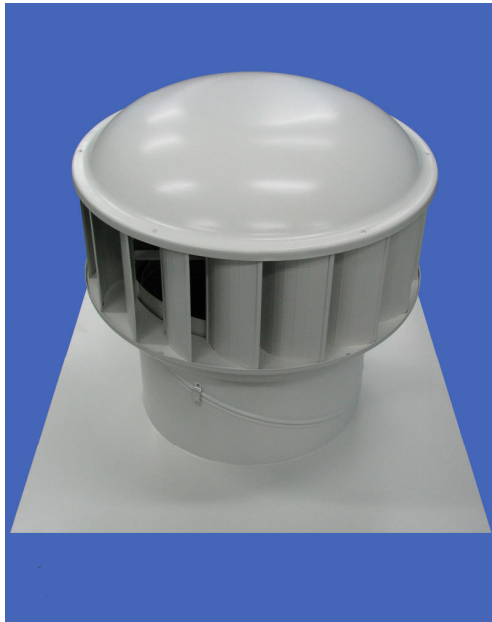
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In natural mode the ventilator absorbs NO power and in powered mode, this data shows that dramatic improvements above conventional mechanical ventilation can be achieved.

CSR Edmonds and ebm-papst have worked together halving power consumption and reducing noise by 30dBA in comparison standard case and plate axials used in mechanical ventilation in developing the *ecopower*.



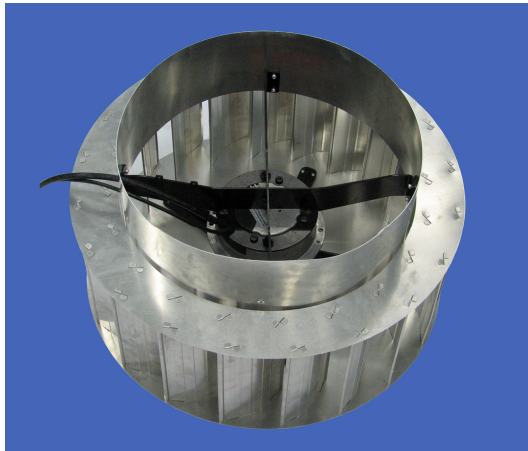
The motor technology itself is innovative and groundbreaking, creating new advances for original equipment manufactures and end users to exploit. These innovations include:

The advance in motor technology provides a simple use of high efficient DC motors that connect direct to AC mains eliminating high cost and high risk installation issues.

Dramatic advances are available in the integral control functions of the motor. Providing 100%, noiseless speed control from any sensor input, BMS or internet access systems. Large EC fans can operate in isolation while also logging its operation for later analysis.

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The ventilation unit can self regulate my means of an anemometer. In this case the anemometer measures the wind speed and hence the ventilation rate of the natural ventilation and then switched the unit to powered mode when the wind speed drops. This is HIGH EFFICIENCY INNOVATION.



The motor design is a real world-wide product with one design with an input voltage range of 380 to 480V and 50 and 60 Hz. The fan performance will not change, it is intelligent enough to know where it is and adjust its performance accordingly.

This really is leading edge technology being used to evolve ventilation technology. It is a combination of new impeller technology with EC technology to create the next generation of energy efficient ventilation units.