

# EC cool

## EC fans for evaporators

### EC fans for cool rooms

“why heat your cool room – ebmpapst EC won’t”

Ebm-papst EC technology has been used in various applications for many years: from ventilation to air filtering from condensers to refrigerators.

New EC Cool, EC fans for evaporators, takes energy saving and cooling one step further.



With new motor and blade developments ebm-papst have been able to reduce the power consumption of evaporator fans dramatically thus reducing the heat load in cool rooms.

The new EC fans utilize new composite technology and the now standard winglets to reduce noise and improve efficiency. Housing the fan improves performance and guarding the fan reduces noise still further by effecting blade passing frequencies.

Comparing the performance of the range of EC Cool with standard single phase fans shows:

- Power consumption reduction of 42%
- Availability of 12% extra air performance
- 9.7% cooling performance of a 4 fan evaporator with R404a at 1degreeK TD
- Savings of 1.5 tonne of CO2 equivalent per annum on typical 4 fan evaporator
- Silent speed control allowing simple speed reduction in areas of low noise requirements

For further information please  
contact: [sales@ebmpapst.com.au](mailto:sales@ebmpapst.com.au)

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## EC fans for evaporators

The use of EC technology in evaporators exploits the double savings principle where direct power consumption savings can be made as well as high COP performance for the cooler.

Fans and motors are inefficient energy converters and considerable power input is lost as heat. For evaporator applications used inside cool rooms this means that the heat dissipation of the fan counter acts the effect of the cooler.

In determining this, comparisons with single phase fans shows that for a single fan 280kWhr per annum can be saved.

Using this figure for a four fan evaporator using R404a at 1degreeK TD, this represents a 9.7% increase in performance as this would represent the extra heat load saved that the evaporator no longer has to remove from the cool room. This significance of this figure reduces at the TD increases.

**This means the use of EC fans reduce  
the heating of the cool room.**

The 280kWhr per annum has a monetary value associated which is steadily increasing as our electricity prices also do. However, this figure is also associated with "carbon footprint". Using the standard figure for CO2 equivalents for Victoria it can be shown that 1.5 tonne of CO2 equivalent can be saved for each four fan evaporator. As with the direct cost, this will soon have a monetary value in the near future as changing legislators take us into carbon trading schemes.

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