

EC AIR CURTAINS



Low consumption technology air curtains

EC technology

EC technology (electronically commutated) combines AC and DC voltages, bringing the best of both technologies; the motor runs on a DC voltage, but with a normal AC supply.

The EC motor transforms the voltage within the motor. The non-rotating part of the motor (stator) includes an electronic PCB board which incorporates power transformation AC to DC, as well as the controls.

EC motors have no slippage losses, thus increasing efficiency versus AC motors.

Advantages and benefits

The new EC air curtains are efficient in reducing the running cost of the ventilation by up to 67% using EC instead of AC fans.

- Energy savings: minimum power consumption and better efficiency than AC equivalent.
- Low motor temperature: for longer lifetime than AC equivalent
- Simplicity: electronic and power transformation are completely integrated within the motor.
- High performance: speed can be driven up to 3600rpm.

Available EC air curtains: Invisair, Kool, Rotowind, Rund, Smart, Windbox, Windbox Recessed and Zen.

EC motor principle

- Permanent-magnet brushless DC motor within the rotor.
- The stator is driven by electronic switches (which replace the Carbon brushes), controlled by a microcontroller.
- Electronic system (hall effect sensor or software is used to recognize the rotor position).
- AC operate 230Vx1 or 400Vx3, valid for 50/60Hz.

EC vs AC air curtain - energy saving example

How much money can I save using an EC air curtain?

Example:

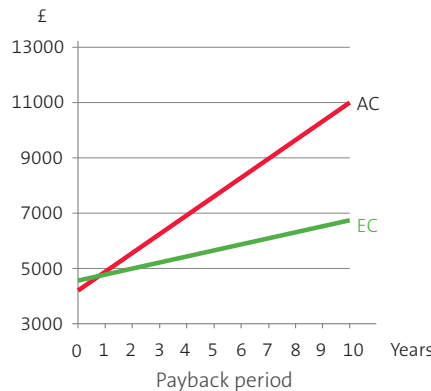
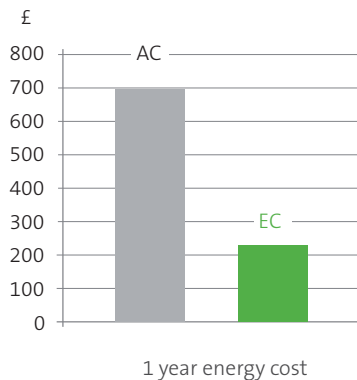
Door dimension: 2m width by 3.8m height

Running time: 12 hours/day, 5 days/week, 52 weeks (~ 1 year)

Energy cost: £0.15 kW/hr

Selected unit: AC - G2000 EC - ECG2000

	AC air curtain	EC air curtain	Difference
Total fans power	1.284 kW	0.450 kW	-0.834
Air curtain price	£4,014	£4,317	£303.00
Total fan energy consumption	4006 kW/hr	1404 kW/hr	-2602
Energy cost	£601	£211	-£390.00
CO ₂ emmissions	2111 kg	740 kg	-1371



Result: The payback period is 1 year. The price of the EC fan upgrade is recovered in approximately 1 year. From then on savings on energy usage will be experienced. Installing an EC air curtain will reduce CO₂ emissions to the environment.

