



## Press Release

### What a difference a (EC) fan makes.

As a world-leading fan manufacturer with more than 50 years' experience within the heating, ventilation and air conditioning (HVAC) sector, ebm-papst UK knows exactly what difference the right fan can make – back in 1965 the company was ahead of the pack when it marketed the world's first EC/DC compact fan – 30 years before any other manufacturer.

Air conditioning systems, whether standalone domestic units or large-scale industrial HVAC plant, use fans to move air around. That's a given. And a fan's a fan right? Nothing too complicated there – fan blades are connected to an electrically powered motor, those blades rotate, moving warm air over coolant coils and increasing the circulation of cool air around the immediate environment.

However, there's a bit more to air con than just accepting the traditional AC-powered offerings – by choosing an electrically commutated (EC) fan to air condition your facilities, be it office space, refrigeration units or computer rooms, you could save your company thousands of pounds in energy costs, stay on the right side of impending legislation from Brussels and, ultimately, do your bit to cut carbon dioxide emissions and help the planet.

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HVAC and other air movement applications can account for a third of a building's total carbon emissions but using an EC fan, instead of a traditional AC fan and motor, can reduce overall HVAC energy consumption by at least 30 per cent. Choosing the right fan product and installation can reduce noise, increase airflow, lower energy consumption and save money – which is pretty simple to understand.

Gemma Lloyd  
Marketing  
ebm-papst UK Ltd  
Phone: +44 (0)1245 468555  
Fax: +44 (0)1245 466336  
[gemma.lloyd@uk.ebmpapst.com](mailto:gemma.lloyd@uk.ebmpapst.com)

[Twitter.com/ebmpapstuk](https://twitter.com/ebmpapstuk)  
[Facebook.com/ebmpapstuk](https://facebook.com/ebmpapstuk)  
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There are legislative considerations FMs should also bear in mind – the staged implementation of the European Energy related Products (ErP) Directive has meant that from 2013 fans of all design types with an electrical input between 125W and 500kW should adhere to set efficiency ratios, with the aim of cutting carbon emissions across the continent. From 2015 those efficiency requirements go up even more. However, EC technology is already there – EC fans provide;

- Up to 70 percent reduction in energy consumption compared with traditional AC fans
- Integrated, infinitely variable speed control
- Reduced noise
- Payback periods as low as two years
- Direct drive motors for maintenance-free operation
- Easy install - in most cases they are directly interchangeable with their inefficient predecessors, allowing for simple replacement with minimal disruption.

And they are already ErP ready.

Whether you are managing HVAC in hospitals or hotels, supermarkets or data centres, the fans inherent in your HVAC system could be accountable for around half of the overall energy used.

Retrofitting EC fans (or installing them from scratch if you have the opportunity) is a straightforward way to cut cooling energy consumption. ebm-papst UK has a solid history of impressive air conditioning equipment upgrades, averaging around 40 percent energy savings for air handling units and 66 percent for fan coil unit improvements, as well as more than 50 percent savings in data centre computer room air conditioning (CRAC) units.

One notable case study of ours from 2013 involved a national bank that used an upgrade to EC fan technology to cut its energy consumption by half, saving it more than £240,000 year-on-year.

For that project ebm-papst UK collaborated with ICT infrastructure experts Emerson Network Power and facilities management providers Norland Managed Services to review energy efficiency at three of the aforementioned bank's London-based data centres, and then project manage the EC upgrade of those centres.

Gemma Lloyd  
Marketing  
ebm-papst UK Ltd  
Phone: +44 (0)1245 468555  
Fax: +44 (0)1245 466336  
[gemma.lloyd@uk.ebmpapst.com](mailto:gemma.lloyd@uk.ebmpapst.com)

[Twitter.com/ebmpapstuk](https://twitter.com/ebmpapstuk)  
[Facebook.com/ebmpapstuk](https://facebook.com/ebmpapstuk)  
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Our initial site survey and review found the centres' existing cooling units ran using nearly 200 AC driven fans, each with only basic settings. It was obvious to us that EC technology could make a huge difference and we trialed two different units to the bank to demonstrate how the EC units consumed less power. Our client was impressed and gave the go-ahead for the full-scale upgrade.

The ebm-papst UK, Emerson and Norland teams then had the task of upgrading the data centres with 76 new CRAC units of varying models (containing 191 fans in total) in a live data environment. Because of the critical nature of the data, an en mass switch-over was impossible and the upgrade teams could only work with one unit switched off at a time. Nevertheless, the upgrade was delivered on time and on budget.

A year on and that banking client's projected annual energy savings range between £240,000 and £270,000, with the upgrade bill set to be paid off by 2015. As well as cutting its energy consumption in half, the global finance firm has cut its CO2 emissions by 1,322 tonnes per year.

We know the easiest way to reduce carbon emissions is to use more energy efficient products, and UK and European legislation is now enforcing the maxim. EC fan technology is an established alternative to traditional AC cooling fans that is already exceeding energy efficiency targets. And the impact on a company's bottom line speaks for itself.

When it comes to picking the best air conditioning fan technology, the choice is simple.

Gemma Lloyd  
Marketing  
ebm-papst UK Ltd  
Phone: +44 (0)1245 468555  
Fax: +44 (0)1245 466336  
[gemma.lloyd@uk.ebmpapst.com](mailto:gemma.lloyd@uk.ebmpapst.com)

[Twitter.com/ebmpapstuk](https://twitter.com/ebmpapstuk)  
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