



Press Release

ebm-papst comment on Data Centre energy management

Helen McHugh, head of sustainable technology at ebm-papst UK

Cutting data centre energy use down to size

Demand for data centre services continues to increase as today's online world becomes ever more important. To meet this higher demand data centre operators are adopting higher-density servers, resulting in increased power consumption and heat generation, which in turn requires more power for cooling.

This increase in demand for power has led some researchers to forecast that global data centre emissions will outstrip air travel emissions over the next six years.

Power consumption is a major consideration for data centres today, with data centre operators continually striving to enhance energy efficiency, reducing their power consumption, their operating expense and their environmental impact.

However, industry is not standing still here and green data centre champions are among us. At ebm-papst UK we have seen how retrofitted technology has reduced the energy used for data centre cooling, with savings in excess of 50%, as well as dramatically reducing CO2 emissions, and the company is now so committed to getting its message out there we have just been named an official EU advocate for energy saving protocols in data centers

Promoting efficient data centers

In May, the European Commission's (EC) Institute for Energy and Transport (IET) gave ebm-papst UK the news that we had been accepted as an official endorser of its Code of Conduct for Data Centres.

The code is a growing voluntary initiative, run by the IET, which recognises the efforts of big businesses across Europe to measure and reduce the energy consumption of their IT equipment and auxiliary systems. ebm-papst UK is now responsible for promoting the code among new and existing clients in the UK and around the world.

Code of Conduct participants are expected to measure and audit their data centre consumption – with help from endorsers – before detailing an energy saving action plan with an agreed implementation timetable.

So far, there are just under 200 participating data centres registered on the scheme, belonging to 73 individual participants across a range of industries; including IT and communications giants such as BT, IBM and Microsoft, and retailers like eBay, Morrisons and Co-op. These are all big hitters we might expect to see on board a voluntary IT scheme, however, there is definitely the scope and the capability to get more businesses, of varying sizes, involved and proactively modifying their data centres.

ebm-papst UK has a solid history in transforming data centres, including a notable case study from 2013 of 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.

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The big bank case study

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 centers, and then project manage EC upgrade of those centers.

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 trialled 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 centers 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 the bank'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.

The future of data cooling is in our hands

That whole project was a brilliant success for ebm-papst UK and our project partners, illustrating how a well-executed upgrade with EC fans can make a vast difference to the energy use of a data centre. And if we'd been commissioned to do it this year we'd have been able to shave even more off the bank's energy bill with ebm-papst UK's new radical impellers – which is an even more efficient fan impeller.

Manufacturers are constantly striving to push the boundaries of efficient fan technology because we know how effective a simple retrofit can be. So, while data centres might be mushrooming, energy consumption doesn't have to – as shown by the EC converts now cutting thousands of tonnes of CO₂ and shaving thousands off their finance department's bottom line. We have the retrofit technology to make a difference.

ebm-papst UK is the domestic arm of ebm-papst Group, Europe's leading manufacturer of fans and motors and is a pacesetter for the ultra-efficient EC technology.

ebm-papst Group employs over 11,000 people at 17 production facilities (including Germany, China and the USA) and 57 sales locations worldwide. ebm-papst is represented in many industries, including ventilation, air-conditioning and refrigeration technology, household appliances, heating engineering, IT/telecommunications and industrial engineering.