Energy efficiency – looking beyond the obvious with ebm-papst

Helen McHugh, Head of Sustainability, ebm-papst

Each and every one of us is under pressure to reduce our negative impact on the environment for varying reasons. For some it is the financial pressure of rapidly increasing energy prices, others it is the wish to reduce their burden and impact on all environmental aspects; and for a few it is because they want to lead the way by setting an example.

For businesses, we have seen increasingly strict legislation driving widespread change in the way companies approach environmental issues. Some of the most obvious actions have been covered, from turning off lights over the weekend, to making sure equipment is switched off when not in use; but what about the less obvious, yet still highly effective contributors?

Heating, ventilation, air conditioning (HVAC) and other air movement applications account for up to a third of a building's total carbon emissions – and yet, in our experience, many organisations overlook this area when considering what measures they can put in place to reduce their energy consumption. It is fundamental to any building's energy efficiency that the right fan is selected and installed correctly but how do you know which fan will make a significant difference?

Typically HVAC systems will use AC motors, which have been shown to be highly inefficient, operating at peak efficiencies of as low as 30%. It is possible to directly increase the efficiency and, as a result, reduce the energy consumption of HVAC units by switching to an EC fan, which can deliver peak efficiencies of up to 90% and can result in a reduction in energy consumption by as much as 70%. This not only delivers on the cost savings that all firms crave, but also helps meet requirements of the Carbon Reduction Commitment legislation.

EC motor technology is based on permanent magnet motor technology with integrated AC to DC conversion and variable speed drive. The core reason why EC motors consume less energy compared to traditional AC induction motor technology is because they do not induce an additional magnetic field in order to make the motor work. This, combined with the simpler motor winding, leads to significant energy savings in small motors from just 5 watts output up to 6kW machines; there are also developments in the pipeline for larger motors.

In addition to the base energy consumption, a further advantage of EC fans and motors is that they can be controlled and regulated to flexibly respond to the actual performance requirements, including switching themselves off when they are no longer needed. The motors also use brushless technology, which enables them to operate completely maintenance free; the net result of this is that not only are they quieter, but they don't suffer drops in performance and have a considerably longer service life.

Our GreenTech EC technology, allows businesses to maximise efficiency across a variety of applications. Each new product developed must exceed the economic and ecological performance of its predecessor before it goes to market.

To learn more about using EC fans and motors to achieve carbon and energy reduction objectives, speak to the experts at ebm-papst on 01245 468 555 or, for more information, please visit: www.ebm-papst-ec.co.uk.