Press release

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ebm-papst sets the bar on Fan Efficiency Grade (FEG) standards with EC RadiCal, EC Plug and EC HyBlade® fans

Make your HVAC/R systems green and efficient! Visit the ebm-papst stand no 270 at ARBS, 07.-09. May 2012 at Melbourne Exhibition Centre.

With fans now consuming an astounding 23 percent of the world's energy*, designers and facility managers of commercial, industrial and institutional buildings need ways to reduce the drain their air moving systems place both on the 'grid' and on their bottom line.

Enter ebm-papst's generation of aerodynamic commercial fans that exceed the rigorous energy-conservation standards in both Australia & New Zealand as well as the European Union for the next decade.

The company's GreenTech philosophy takes a complete systems approach — from electrical input to airflow output. ebm-papst GreenTech fans have a highly efficient airflow- to-watt ratio. Their **EC RadiCal**, **EC HyBlade®** and **EC Plug** fans offer precise controllability for load matching and efficiency superior to traditional fans with AC motors.

Locally, regulations such as the Building Codes of Australia, the "In From The Cold Strategy" and Minimum Energy Performance Standards (MEPS) for fans have been set up to regulate the efficiency of fans systems used in the air movement industry.

We should all be aware that the Building Codes of Australia only include shaft power in their definition of fan input power. This means that efficiency is calculated very differently in comparison to the international standards, as defined in ISO12759.

Using motor shaft power as an input to an efficiency calculation, does not take into account motor heat, electronic drive inefficiencies and mechanical transmission losses. Therefore system designers and users are usually left to estimate these variables on their own.

ebm-papst creates and documents efficiencies for the complete fan assembly such that estimates no longer have to be made and actual performance can be used to give a more accurate result.

Each EC GreenTech fan is rated for overall fan efficiency; it accounts for the motor, the integrated variable speed drive and the impeller components.

"Our efficiencies are measured air horsepower output over electrical input power," said Armin Hauer, advanced technology manager for ebm-papst Inc.

In sync with worldwide efforts to reduce CO2 emissions, ebm-papst EC GreenTech fans meet the European Commission's ErP2015 directive. Their EC fan motors also exceed IE4 Super Premium Efficiency levels set by the International Electrotechnical Commission (IEC).

ebm-papst GreenTech fans support future-proof building designs around the world.

ebm-papst's intelligent, single or 3-phase, AC line powered EC drive motors can attain full speed efficiency to 90 percent and maintain their high efficiency when operated at greatly reduced speeds. The EC motors are controllable and maintenance-free. A single motor design can drive several fan types, including axial impellers up to 1250mm (49"), backward-curved radial impellers up to 710mm (28") and forward-curved centrifugal wheels up to 450mm (17.7"). The product line ranges up to 6kW (8hp).

On larger axial and centrifugal EC models, fan communication is possible via free motor control software available for a laptop and/or PDA/smartphone. This allows users to easily set a fixed motor speed or to program a closed-loop feedback system to maintain a constant set point. Fans can be equipped with an integrated PID (Proportional-Integral-Derivative) controller, external sensor input for speed modulation, sensor power supply, and RS485 Bus interface for programming and diagnostics.

Find out more about ebm-papst's line of energy-saving air movers at stand 270 during ARBS, 07.-09. May 2012 at Melbourne Exhibition Centre.

* "Select Fans Using Fan Total Pressure to Save Energy", John Cermak, Ph.D., P.Eng., and John Murphy, Ph.D., ASHRAE Journal, July 2011, p. 1 – 46.

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