

Improved Energy Efficiency of Finned Heat Exchangers by Using Latest EC Technology

With increasing electricity rates and a drive towards more energy efficiency solutions, a more holistic solution towards system optimization and energy saving is becoming popular. Previous issues have highlighted retrofitted packages with improvements such as the latest variable speed drive technology (VSD) in compressors and themos-syphon oil coolers, but many times the potential reduction in energy consumption of cooling in both the hot gas and cold gas side of the refrigeration cycle is overlooked.

VSD versus EC Motors

Standard VSD operated AC fans allow for control of condensing temperature and can respond to varying load requirements. They are a great energy saver when compared to regular on-off modulation. Their high installation cost and sometimes difficult installation have hindered their popularity. EC (electronically commutated) motors in fans offer a more energy-efficient, simple, cheaper and more silent alternative to this system. They provide close to maximum efficiency throughout their whole operating range as apposed to AC fans which have varying efficiencies at different operating speeds.

Lower Noise Levels

The newly develop TEX diffusers by therrnofin® further increase the performance of the EC fans and result in more energy recovery. The diffusers offer easy fitment onto the existing units. They have the advantage of an increased airflow with the same power consumption or the possibility to



EC Fan motors are standard on all thermofin air cooled condensers



thermofin air coolers in a large distribution centre in Saudi Arabia

reduce the speed having the same airflow. This can alternatively be used to reduce sound levels at the required performance.

Pioneers in EC Fan Applications

thermofin GmbH considers itself as a pioneer in the use of EC fans in the refrigeration market. A large logistics centre in Saudi Arabia with about 70,000 m² was completed in 2007. Meanwhile, the storage



area has been enlarged by another 20,000 m². The logistics centre uses Thermofin® air coolers with EC technology. This allows for individual cooling for various storage zones according to their refrigeration requirements. Their longer lifetime and reduced service intervals were also a deciding factor.

Wide Applications in International Markets

“thermofin® has successfully been implementing EC fans in their range of air-cooled condensers, dry coolers, evaporators and air coolers which can respond to varying load operations. They have gained popularity in not only the German market but also in fast growing international markets including South America and China. There are many applications such as quick cooling followed by storage, day and night operation and flexibility for cooling different food products. The condensers can be pressure regulated and dry coolers temperature regulated. At thermofin® we strive for continued quality and efficiency using latest production equipment for optimized performance and cost....” Says Willy Löffler, founding member of thermofin GmbH.

thermofin® will be at the Frigair 2015 Expo and welcome all to their Stand C52. “Come experience the difference....” – Willy Löffler.