



## The Quarterly Shaft Grounding Technology Newsletter - AEGIS Bearing Protection

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**Variable frequency drives (VFD) are designed to provide the energy savings for high performance "green" buildings but unless the motor is protected from bearing currents the system is not truly "sustainable." Shaft Grounding – A solution to bearing currents was presented at the 2008 Annual Meeting in Salt Lake City.**

*Variable Frequency Drives induce shaft voltages onto the shaft of the driven motor because of the extremely high-speed switching of the insulated gate bipolar transistors which produce the pulse width modulation used to control AC motors in heating, ventilation, air conditioning and refrigeration... [Click here for complete manuscript](#)*

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### **AKF Analysis and Testing: Breathing New Life into the Time Life Building Air Handlers – Test report of first AEGIS SGR installation at Rockefeller Center in New York City**

*AKF Analysis installed the AEGIS SGR Bearing Protection Ring for one of their high profile clients in a 50 HP "problem" motor in Rockefeller Center's Time and Life Building in February 2008 to demonstrate the effectiveness of a new bearing protection technology. This inverter ready motor had experienced repeated problems with electrically induced bearing failure from running on a VFD – the most common motor control used in air handling, pump, chiller and cooling tower systems. The destructive shaft voltage was reduced from over 50 volts peak-peak to a harmless level a year later of 4.8 volts peak to peak. Variable frequency drives are used to save energy in "green" buildings but unless AEGIS SGR is added for sustainable operation, the motor drive systems are subject to premature failure which can wipe out the energy savings achieved by installing VFD technology. [Click to download the Case Study](#)*

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### **New Split Ring AEGIS Shaft Grounding Ring kits allow installation without decoupling motor**

*The best selling AEGIS Bearing Protection Ring kits for NEMA frame motors now comes in a new SPLIT-RING design which makes installation even easier and allows equipment to be retrofitted with AEGIS Shaft Grounding Ring technology without the cost of de-coupling! The split ring AEGIS NEMA kit was developed based on feedback from you, our customer and is now available for all NEMA frame motors from 56 to 449T. [Click for product details](#)*

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### **Sustainable Technology: Supporting the Federal Energy Management Program (FEMP)**

*Federal law requires all new and renovated federal buildings to reduce fossil fuel use by 55% by 2010, and 80% by 2020 and for all new federal buildings to be "carbon-neutral" by 2030.*

*This program, in large part under the Department of Energy's Federal Energy Management Program <http://www1.eere.energy.gov/femp/> will require all buildings to be "sustainable high performance buildings." To design for sustainability pump, fan, and compressor systems should be considered for retrofit with VFDs. However to make those systems sustainable, the motors controlled by the VFD must have shaft grounding installed or the motor bearings could fail. To learn more about the FEMP and how AEGIS helps sustain VFD driven motors download the PowerPoint presentation: [Click to view FEMP PowerPoint](#)*

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**Installation Breakthrough! AEGIS SGR may now be installed with conductive Epoxy!**

*The latest exciting option to install AEGIS SGR is to use ITW Chemtronics CW2400 Conductive Silver Epoxy to mount the shaft grounding ring directly to the motor end bracket – after first removing paint for a smooth metal mounting surface. [Click for Conductive Silver Epoxy Mounting Instructions](#)*

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**Product Design and Development News: Fulfilling the promise of Variable Frequency Drives**

*Sustainability is as important in a "green" design as energy savings. 60% to 80% of the total cost of ownership in a building consists in the operational and maintenance costs during the building's life cycle, so designing for both energy savings and sustainability is the key. The use of variable frequency drives (VFDs) is growing at an increasing rate in order to lower energy consumption, however, VFD driven motors are also subject to induced electrical voltages on the shaft which result in premature system failure unless discharged by a reliable and long lasting shaft grounding ring system. [Click to download article](#)*

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**Product spotlight – AEGIS SVP – Shaft Voltage Probe for Fluke 199C Scope meter**

*Is your motor safe from destructive shaft voltages? For the first time you can easily and more accurately measure the shaft VFD induced voltage on a rotating shaft. AEGIS SVP's unique design of high density conductive micro fibers ensures continuous contact with the rotating shaft. [Click for more information](#)*

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**Motor Rebate – U.S. Government may help you replace your electric motors to save energy and help pay for sustainable motor design**

U.S. Senate Energy and Natural Resources Committee approved an energy-efficient motor rebate program. This is only the first step but if enacted into law, the legislation, introduced by Senator Blanche Lincoln, would create a new energy-efficient motor rebate program for the purchase of NEMA Premium(R) efficiency electric motors. The rebate program is designed to help offset the cost difference between new, more efficient NEMA Premium® motors and the cost of less efficient motors when replacing existing motors. Specifically, this program would provide a \$25 per horsepower rebate for the purchase of NEMA Premium(R) motors, as well as a \$5 per horsepower rebate for the disposal of the old, inefficient motor. The rebate would apply to any NEMA Premium®