AEGIS™ SGR
BEARING PROTECTION RING

Protecting VFD-Driven Motors from Bearing Damage

March 2011
Electro Static Technology

AEGIS™ Inside: More OEMs Offer Motors with AEGIS™ Bearing Protection Built In

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GE Introduces New Line of A$D Ultra Motors with AEGIS™ Inside

The latest addition to the Ultra family of NEMA Premium Efficient motors, the new A$D Ultra is designed for constant torque/variable speed applications and protected against electrical bearing damage by an internally mounted AEGIS™ SGR on the drive end bearing.

To read more, click here.

GE Introduces New FastTrack Motor Modification

GE now offers the AEGIS™ SGR mounted externally on any stock motor from its complete 1-300 HP ODP or TEFC Energy Saver® motors.

To read more, click here.

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New Taco 1900 VFD Pump Features Optional AEGIS™ Shaft Grounding Rings

Taco's new 1900 VFD Close-Coupled, In-Line Pumps with integrated variable frequency drives (VFDs) can be equipped with AEGIS™ Shaft Grounding Rings to prevent electrical bearing damage and fluting, dramatically extending motor life. Available as a factory-installed option, the rings divert harmful shaft voltages and bearing currents safely to ground by providing a path of least resistance.

Taco 1900 VFD Pumps are designed to greatly increase system energy efficiency by gently ramping pump speed/flow up or down to match changing heating or cooling loads.

Available in 5 basic models with single-phase or three-phase motors, in sizes from 1-1/2" x 1-1/2" to 2" x 2", flow ranges from 10 to 250 GPM, and head capabilities to 160 feet, 1900 VFD Closed-Coupled In-Line Pumps:

- Can be installed anywhere in a piping layout
- Are supported by system piping, requiring no additional strapping or external support

- Can be mounted horizontally or vertically
- Are permanently-sealed with grease-lubricated ball bearings making them virtually maintenance-free
- Have ceramic seals for a wide range of application requirements
- Have a rear, pull-out design that allows servicing without disturbing piping
- These pumps have a typical payback of less than 12 months versus single-speed pumps.

For more information, click here.

Download Datasheet

2011 Conference & Exhibition
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AEGIS™ SVP – Shaft Voltage Probe gives Maintenance Departments Capability for VFD Induced Shaft Voltage Measurements

Capacitive coupling between windings and rotor can create voltage on a motor's shaft — voltage that can discharge through bearings, damaging them and shortening motor life. For motors powered by sine wave AC power, these voltages are typically 1-2 V. For motors controlled by variable frequency drives, however, these voltages can be as high as 8-15 V. At these higher levels, voltages essentially electric discharge machine (EDM) motor bearings, causing pitting, fusion craters, and fluting, which eventually lead to premature bearing and motor failure.

Until now, there was no convenient way to determine whether a motor was at risk for such bearing damage. By the time bearings began to make noise, the damage was done.

Now, with the AEGIS™ SVP Shaft Voltage Probe and an oscilloscope, plant maintenance personnel can take readings from motor shafts quickly and easily — readings that confirm or deny the presence of shaft currents that can damage motor bearings.

The following equipment is required to test for damaging shaft currents:

AEGIS™ SVP: A specially-designed shaft voltage probe extends an operator's reach and contacts the motor shaft by means of a conductive microfiber brush, making the process of taking shaft voltage readings safer and easier.

Oscilloscope: An oscilloscope with a high bandwidth (up to 200 MHz) and fast sampling rate (up to 2.5 gigasamples/ second) such as the Fluke 190 Series II ScopeMeter®.

For more information, click here.

Unprotected bearing shows fluting from continual electrical discharges

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