

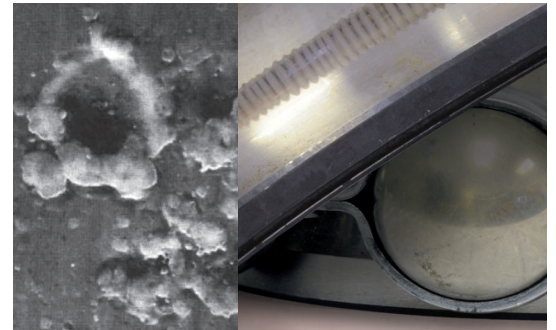


Protecting VFD-Driven Motors: Bearing Protection Best Practices

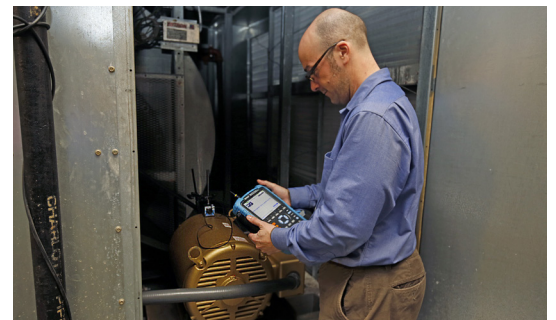
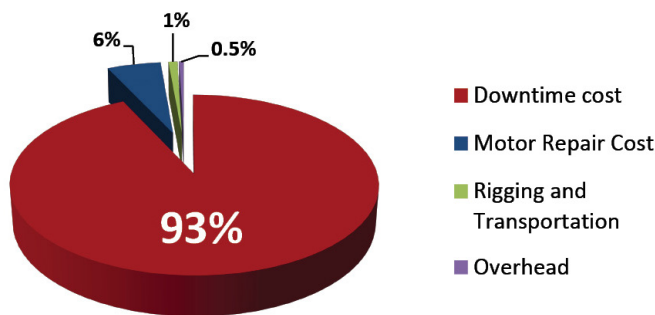
VFD-Driven Motors Are at Risk of Electrical Bearing Damage!

Motors operated by variable frequency drives (VFD) are vulnerable to VFD-induced shaft voltages and bearing currents that can cause premature bearing failure - often in as little as 3 months!

VFDs induce destructive shaft voltages and high frequency currents which can discharge through motor bearings, burning bearing grease and reducing its effectiveness. Through electrical discharge machining (EDM), these discharges can also cause pitting, frosting, and fluting damage to the motor's bearings and eventual bearing failure. The result is costly repairs, downtime, and lost production.



Prevent EDM Pitting and Fluting Damage



Test Motors with AEGIS® Shaft Voltage Tester™ Oscilloscope

Protect Motor Bearings With AEGIS® Rings

By channeling harmful VFD-induced shaft voltages away from bearings and safely to ground, AEGIS® Shaft Grounding Rings protect motors from costly bearing damage.



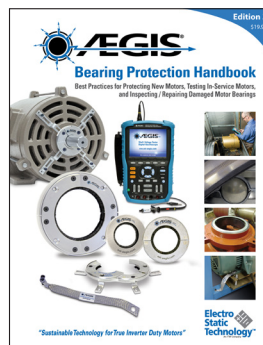
Protect Motors with AEGIS® Rings or uKITS

Bearing Protection Best Practices

The AEGIS® Motor Repair Handbook details best practices for protecting VFD-driven motors from electrical bearing damage and preventing costly repairs, downtime and lost production.

Learn about:

- Bearing currents and shaft voltages
- AEGIS® technology
- Shaft voltage testing
- Installation best practices



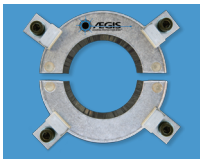
For detailed recommendations, refer to the AEGIS® Bearing Protection Handbook. An essential reference, the Handbook is available free at www.est-aegis.com/handbook





Standard Mounting Clamps (-1)

Shaft diameters: 0.311" to 6.02"
3 to 4 mounting clamps, 6-32 x 1/4" cap screws and washers



Split Ring (-1A4)

Shaft diameter: 0.311" to 6.02"
4 to 6 mounting clamps, 6-32 x 1/4" cap screws and washers
Installs without decoupling motor



Bolt Through Mounting (-3FH)

Shaft diameters: 0.311" to 6.02"
6-32 x 1/2" flat head screws
2 mounting holes up to shaft size 3.395"
4 mounting holes for larger sizes



Conductive Epoxy Mounting (-0AW, -0A4W)

Shaft diameters: 0.311" to 6.02"
Solid and Split Ring
Conductive Epoxy Included



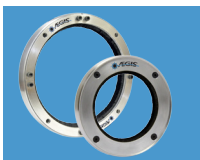
Press Fit Mounting (-0A6)

Shaft diameters: 0.311" to 6.02"
Clean dry 0.004" press fit
Custom sizes available



uKIT - SGR with Universal Mounting Bracket

Sized for NEMA and IEC frame motors
Solid and Split Ring
Can be mounted with hardware or conductive epoxy



AEGIS PRO Series, Large SGR, WTG

AEGIS PROSL, PROSLR, PROMAX, PROMR
Large SGR Rings over 6.02"
AEGIS WTG for Wind Turbine Generators



AEGIS Shaft Voltage Tester™ Oscilloscope

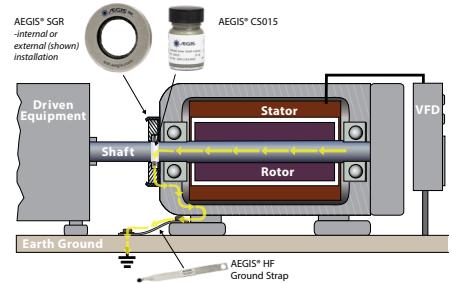
100 MHz Digital Oscilloscope
10:1 probe with SVP tip for measuring voltages on a rotating shaft
AEGIS One-Touch™ instant image capture



Accessories

HFGS - AEGIS High-Frequency Ground Strap
CS015 - AEGIS Colloidal Silver Shaft Coating
EP2400 - AEGIS Conductive Epoxy

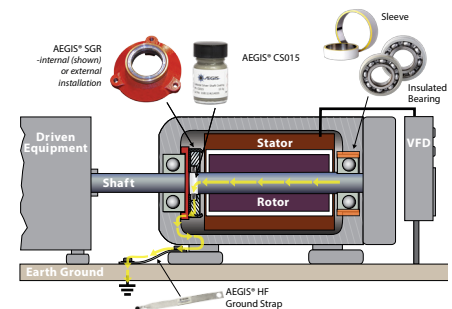
Motors up to and including 100 HP (75 kW) Low Voltage



- Install AEGIS Bearing Protection Ring – either internally or externally – on drive end or the non-drive end of motor. Use AEGIS Colloidal Silver Shaft Coating (PN CS015) on motor shaft where fibers touch.

Product recommendation: AEGIS SGR

Motors Greater than 100 HP (75 kW)



- Drive End: Install AEGIS Bearing Protection Ring - Internally on the back of the bearing cap or externally on the motor end bracket. Use AEGIS Colloidal Silver Shaft Coating on motor shaft
- Non-Drive End: Isolate bearing housing with insulated sleeve or coating or use insulated ceramic or hybrid bearing to disrupt circulating currents.

Product recommendation:

LV Motors up to 500HP: AEGIS SGR

LV Motors over 500HP: AEGIS PRO Series

MV Motors: AEGIS PRO Series

Download the AEGIS Best Practices Handbook:
www.est-aegis.com/handbook

