



Helwig's Bearing Protector™ Reduces Costs

Extends the Life of Bearings from Six Months to Over Five Years

Schneider Electric Motor was asked to repair an electric motor for a machine that polishes metal sheets down to tolerances in microns. The sheets measure 4' by 10 to 14'. The 30 KW AC motor runs at 1800 rpm and was made in Germany. There is a 30" pulley on the machine and an 8" pulley on the motor. A computerized spray feeds ahead of a polishing device that moves back and forth across the metal sheet.

After the motor had been installed for only eight months, the bearings failed. Replacements were shipped from Germany at a cost of \$1,000 for four bearings. Another six months passed, and the bearings failed again and were replaced again. The company thought the problem might be the type of grease that was used, so Schneider Electric Motor purchased grease from the German motor manufacturer. Six months later, the bearings failed again.

Technical Expertise

"We sent the bearings to KOYO Manufacturing for analysis," explained Jim Schneider, president of Schneider Electric Motor. "We had thought it might be a lubrication problem, or maybe we needed better bearings. According to their report, though, there was a shaft current problem with the motor, causing the bearings to fail. We called Helwig to find out what they recommended to solve the problem.

"I had been buying brushes from Helwig for many years and talked to one of their technicians about the problem. He hit on it in the first get go and suggested we install Helwig's Bearing Protector™, their shaft grounding assembly that protects against premature bearing failure. The static electricity off the flat belt pulley was building up and seeking grounding along the shaft. The static charge was then building up on the shaft and discharging onto the bearings. The bearings were badly pitted.

"It was easy to install Helwig's Bearing Protector™. I attached it to a 3/4" stub shaft. The grounding brush is made of silver graphite brush, which conducts electricity, so it flows off the grounding brush and doesn't transfer into the bearings. We haven't had to replace any bearings since we installed Helwig's Bearing Protector™ over five years ago."

Quality and Reliability

"We solved the problem with parts that cost under \$100," noted Schneider. "Plus, there was a charge for labor to install the Bearing Protector. It's been over

Type of Company:

Motor Repair

Location:

Menomonie, WI

Concerns:

Technical Expertise
to solve the problem causing
pitting in bearings

Reliability, Quality



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five years since we installed it, and we haven't had any problems with the motor. That's a savings of nearly \$10,000, considering it was costing \$1,000 to replace the bearings every six months."

"Helwig developed the Bearing Protector™ to help increase the life of motors in situations just like the one Jim Schneider ran into, which is fairly common," explained Jay Koenitzer, president of Helwig Carbon Products. "The Bearing Protector™ is a shaft grounding assembly that diverts static and induced electric currents in motor shafts away from the bearings, protecting them from pitting and potential damage."

The Bearing Protector's™ solid brass brush holder contains a constant-force spring to ensure that electrical contact between the silver graphite grounding brush and the motor shaft is continuous. As long as there is continuous electrical contact, the bearing components are protected against the development of electrical pits. When electric currents are conducted through the bearings to ground, the bearings become damaged over time from arcing and pitting. The resulting irregular surfaces on the bearings cause noise, vibration and premature bearing failure. Bearing failure is one of the most common causes of motor downtime. Equipped with a silver graphite grounding brush, The Bearing Protector™ assures that shaft voltages are maintained at a safe minimum level, near zero volts.

Helwig Carbon Products, Inc. produces top quality carbon brushes, brush holders and mechanical carbons for thousands of customers all over the world. For more information, visit the company's Web site at www.helwigcp.com or call them at 800-962-4851.



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