



**Shop Tech Talk May2009**

**Q. Is there any way to tell from the outside of a motor, without disassembling it, whether arcing is happening in the bearings of a motor connected to an a.c. drive?**



The latest tools I know of are the SKF Electrical Discharge Pen(EDD) to the left and the Aegis SVP Shaft Voltage Probe below.

The SKF EDD , their part No TKED 1, costs approx. \$700

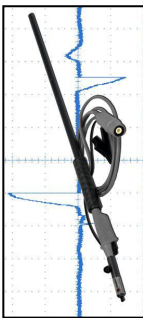
It is a simple to use, handheld instrument for detecting electrical discharges in electric motor bearings, on a chosen time base, remotely. With the help of the EDD pen you can detect whether electrical discharge is occurring in the bearing or not.

The more pulses counted, the greater the risk of electrical erosion and lubricant degradation.

The number displayed is the number of discharges detected and counted by the EDD pen in a given time frame.

How you interpret the numbers is what will bring you value.

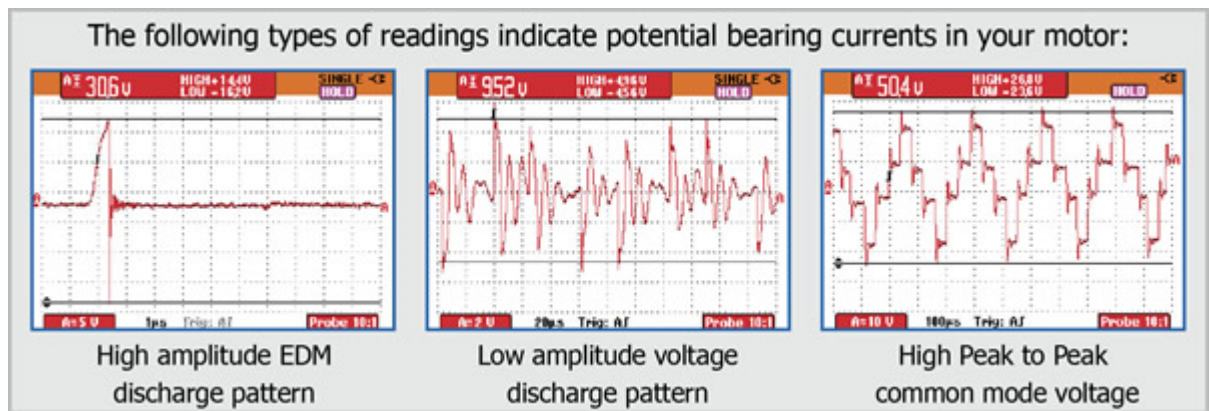
For a complete description of this device from SKF please follow this [link](#).



The Aegis SVP Shaft Voltage Probe costs approx. \$340 and is used in conjunction with an oscilloscope, like the Fluke Model 199C.

For a more complete description of this device please follow this [link](#)

The probe tip is composed of the same high density conductive microfibers that Aegis uses in its SGR bearing protection ring, that we use to retrofit to electric motors to eliminate shaft bearing arcing discharge problems.



**It should be mentioned that not all motors driven by a VFD suffer from electrical erosion, although the potential risk is always present.**

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