



Electric Motor Testing Tip of the Week

revolutionizing *electrical* reliability

June 30, 2008

Eccentricity Tests with VFD's or RVSS's (corrected)

This tip was previously posted on April 28, 2008. It has come to our attention that the formula $\text{RPM} \times \# \text{ Rotor Bars} / \text{Line frequency}$ was in error. A corrected formula now appears in the text.

The Air Gap fault zone is analyzed and trended with the Eccentricity Capture. Determinations about the motor's Air Gap can be made by evaluating the odd multiple sidebands of the line frequency that develop around the eccentricity frequency: $\text{RPM} \times \# \text{ Rotor Bars} / 60$. Tests can be performed and evaluated accurately by knowing exactly what line frequency is being supplied to the motor. Remember a VFD's output can be higher or lower than specified on your motor's nameplate. A RVSS will usually output an un-manipulated line frequency as supplied to the facility.

You are invited to submit an Electric Motor Testing Tip of your own and receive a free PdMA mug or hat if we publish it! Contact Lou at 813-621-6463 ext. 126 or lou@pdma.com.

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