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Tip Of The Week

June 26, 2017

Mind the Gap

The air gap between rotor and stator is generally considered acceptable with a 5 - 10% variation from the average measured air gap. Some air gaps can be as small as 0.008”(0.2mm) requiring some precision alignment and balance to prevent a rotor/stator rub. According to Sergio Aguilar of CME in Monterrey, Mexico, 0.035 - 0.045” (0.889 – 1.143mm) are common values of air gap found in smaller frame induction motors. Larger air gaps increase the magnetizing current resulting in lower achieved flux density and lower power factor measurements.

MCE testing provides a qualitative analysis of air gap through the Rotor Influence Check. EMAX provides a quantitative analysis of air gap through baseline comparisons of line frequency harmonic sidebands around the air gap flux frequency (#Rotor Bars x Shaft Frequency).

To view a case study on air gap eccentricity visit the PdMA YouTube Channel at:
https://www.youtube.com/watch?v=NZ-yYEfGjDQ

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. 166 or lou@pdma.com.