



A Leader in Electric Motor Testing

Tip Of The Week

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Concentric and Lap Wound Windings Effect on a RIC

Concentric Wound motors are usually machine wound with individual coils stacked rather than lapped. In Lap Wound motors, as the name implies, the coils overlap each other until the last one joins the first.

How do these different motor winding configurations affect the PdMA® MCE® test data? When conducting a Rotor Influence Check (RIC), if between phases it appears you have large differences in minimum and maximum inductance values (“stair stepping”) thus indicating possible misalignment, it is good practice to continue testing to the second pole group for verification. If the second pole group has similar stair stepping minimum and maximum inductance values between phases, it is an indication of a concentric winding. Conversely, a healthy Lap Wound motor will usually indicate equal minimum and maximum inductance values between phases and throughout each pole group.

For more information review the Air Gap Fault Zone: http://www.pdma.com/webinars/Air_Gap_Fault_Zone/AirGap.html and http://www.pdma.com/pdfs/Articles/Using_a_Six_Fault_Zone_Approach_for_Predictive_Maintenance_on_Motors.pdf

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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