

Application Note

Supco M500 & M1000D Megohm Readings

100-150 Megohm Reading

Most electrical engineers and motor designers agree that a measurement of 150 or more megohms across an electrical terminal to its ground would be considered excellent insulation, and a reading of 100 to 150 megohms is very good.

60-100 Megohm Reading

Measurements of 60 to 100 megohms would show a decline in the insulation resistance, either in an area or a specific spot. This is a most important measurement. It tells you that if you do not take corrective steps, the insulation will completely breakdown. With open type motors it is a matter of good housekeeping by cleaning the dust and any grime from the windings, using a recommended solvent.

20-60 Megohm Reading

A 40 to 60 megohms reading in a hermetic compressor is an indication that you can have any one of a few problems; a winding that was overheated, contaminated oil, or moisture circulating in the system.

Sampling the oil for a burning odor will tell you immediately that the winding was overheated. If the oil is clean and odor free, it can still have some contamination that is causing the low megohm reading.

A 20 megohm reading shows severe contamination and failure of the system is likely. The best overall protective procedure is to dump and replace the entire oil, change and install a new liquid line drier.

If the oil had an odor, a thorough check of the condensing medium, air fans, cooling tower and all motors for worn bearings should be made.



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