

DOI: <https://doi.org/10.15407/techned2019.04.048>

CHARACTERISTICS OF CASED ELECTRICAL INSULATION SYSTEM OF ASYNCHRONOUS ELECTRICAL MACHINES AT RESONANCE FREQUENCY

Journal	Tekhnichna elektrodynamika
Publisher	Institute of Electrodynamics National Academy of Science of Ukraine
ISSN	1607-7970 (print), 2218-1903 (online)
Issue	No 4, 2019 (July/August)
Pages	48 – 55

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Abstract

A T-shaped equivalent circuit of an asynchronous phase motor with a deaf connection into the “star” of the stator winding phases is presented. The calculated and experimental frequency dependences of the quality factor of the “phase-phase” circuit as a function of the dielectric loss tangent of the cabinet insulation are given. It was found that at the resonant frequency in the inductance measurement mode, the characteristics of the electrically insulating system are significantly different in comparison with the measurement mode of the capacitance of the housing system of the electric machine. References 22, figures 4, table 1.

Key words: corpus electrical insulation system, stator windings, equivalent circuit, impedance

method, quality factor, resonance frequency, dielectric loss tangent.

Received: 17.12.2018

Accepted: 15.04.2019

Published: 05.06.2019

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