

# INVESTIGATION OF NEW DESIGN OF 3-LOBE JOURNAL BEARING

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## ABSTRACT

The turbine 3-lobe journal bearing operates at higher speeds and mean external loads and consists of three, symmetrically displaced lobes of the same length, uniformly arranged on the bearing perimeter and separated by the oil supply grooves. Another type of 3-lobe bearing can be made as the 3 lobe bearing with special orientation of lobes on the bearing perimeter.

The paper introduces the results of calculation and experimental investigation of new design of 3-lobe journal bearing operating in the conditions of adiabatic oil film. The Reynolds, energy, geometry and viscosity equations were numerically solved under typical assumptions of thermo-hydrodynamic theory of lubrication.

**Keywords:** 3-lobe journal bearings, static and dynamic characteristics,