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STATIC CHARACTERISTICS OF THE SPECIALLY DESIGNED INDUCTION MOTOR FOR A DRIVE SYSTEM FOR POLYMERIZATION REACTOR TAKING INTO CONSIDERATION A LOSS IN LARGE-SIZE SLIDE BEARING MADE OF SINTERED CARBIDES

ABSTRACT *A construction of the specially designed asynchronous induction motor is depicted in the paper. A vertical suspension of the motor using large-size slide bearing made of sintered carbides is described. Operating characteristics are determined on the basis of a system of equations describing steady states of motor operation and additional equations determining increments of slip that results from the load torques of motor caused by friction in lower bearing. The calculations were made for slide bearing considering the assumed curvature of the shape of bearing bushing. The stator current, power consumption, efficiency and power factor as functions of the output torque as well as the stator current and power consumption as functions of the slip were determined. The calculations were made for various assumption concerning the stator parameters and different temperatures of motor operation.*

Keywords: *polymerization reactors, specially designed motors, operating characteristics, slide bearings.*