

## **Annotation**

In this thesis, the design of an asynchronous motor with a power of 45 kW, the number of poles  $p = 6$  and the degree of protection IP44 is carried out. To achieve this goal, an analytical review is carried out, the dimensions, configuration and material of the magnetic circuit of the motor are determined. The calculation of the magnetic circuit, the calculation of active and inductive resistances, the calculation of the mechanical characteristics of the motor and the dependence of the starting current on slip are also carried out. Thermal and ventilation calculations, mechanical calculation of the shaft and selection of rolling bearings, calculation of the reliability of the stator winding are carried out, then the mass of the motor and the dynamic moment of inertia of the rotor are determined.

In the section on safety and life, it considers the measures provided for in the fire safety system and makes appropriate calculations to determine the likelihood of fires within 8760 hours.

In the economic part, the calculation is carried out to determine the cost of the material, the calculation of the full wages of workers, the calculation of general production and general expenses, the estimate of transport and procurement costs is determined and the calculation of the cost of production and the calculation of the selling price of a unit of production is carried out.