

ANNOTATION

This degree project is dedicated to developing energy-efficient asynchronous electric centrifugal pump automatic control system. A feature of this particular project is a presence of the speed controller with speed feedback. For the development of this system in the degree project software package MATLAB is used, by which provides a mathematical description, the stability of the system is studied and the optimal parameters of the system are calculated.

As part of the life safety this project analyzes harmful factors of the operational centrifugal pump and calculates the artificial lighting of the workplace as well as climate protection.

In the economic part the cost-effectiveness of upgrading the pumping unit is considered through technical and economic comparison of the two equivalent systems and comparing the adjusted costs.