SUMMARY

The diploma project is fulfilled on 72 pages and contains 31 figures and 6 tables and 3 posters A1.

The main goal of this project is creating a fully automated electric drive for circulating pumping installation system.

As a result of executing that project next problems were solved: analyses of different working modes, features of construction and different methods of regulation of electric drive for different types of pumping units. Requirements for the electric drive and control system were formed, the electric drive system was substantiated and selected, the elements of the power circuit of the electromechanical system were calculated and selected. A mathematical model of the electromechanical system of a circulating pump installation was developed, on the basis of which the modeling of the electromechanical system in the environment of MATLAB Simulink was carried out. The results of researches of dynamic and static modes of work of the electromechanical system of a circulating pumping unit at different levels of stabilization of temperature of the hydraulic network were obtained.

PUMPING UNIT, FREQUENCY CONVERTERS, ELECTRIC DRIVE, REGULATORS, ASYNCHRONOUS MOTORS, TEMPERATURE STABILIZATION, DESIGN OF THE ELECTRICAL PRINCIPLE, MODELING.