

SUMMARY

The diploma projet comprises: 112 pages, 44 figures, 29 tables and graphical part on 6 pages A1.

The purpose of this work is to create an electromechanical system for pressure stabilization of a two-unit pumping unit with a series connection of pumps and to study this model in the Matlab software environment using Simhydraulics package. Investigate the feasibility of using this toolbox in the study of pumping installations, taking into account changes in the length of the pipeline and hydraulic resistance of the hydropower network. Conduct an analysis of the dynamic and static characteristics of the system obtained from the virtual simulation of a pumped two-unit pumping plant.

This paper provides an analytical review of the features of the control systems of pumping installations, typical systems of many aggregate pumping installations and connection of pumps in the joint work. The purpose of the two-unit series pumping complexes and the scope of this hydraulic actuator is considered.

Selection of centrifugal pumps based on the output head and output data, calculated their power and selected drive induction motors, frequency converter for a controlled motor, a soft start device for an uncontrolled drive motor, according to the power of the pumps. The mathematical models of an induction motor, a series connection of pumps are given.

PUMP INSTALLATION, CONTROL SYSTEM, PRESSURE STABILIZATION, PRODUCTIVITY, PRESSURE, HYDRAULIC RESISTENCE, SERIAL CONNECTION PUMPS, STABILIZERS, SIMHYDRAULICS.

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