

ABSTRACT

The master thesis contains: 141 pages, 74 figures, 14 tables and graphics 6 sheets.

With the progress development of social economic and standard of living of people continuously improved, more and more demanding to quantity, quality and stability of water supply bring forward in city. The control of unit is mainly depended on manual operating of watches. The process of control is very complicated and that manual control can't meet the change of pressure in the pipes and the water level of the pure pond. It also can't act the proper feedback in time. For the sake of water supply, the electromotor unit usually works in the state of over charge. Not only efficiency of electromotor is low and electricity consuming is bigger but also the pressure of pipes is overload in long term.

Purpose of work: theoretical analysis of the problems of the efficiency of the use of electric drive in water supply systems, development of measures to save energy consumed by pumping plants, determination of technical and economic efficiency of the introduction of a regulated electric drive.

In the master's thesis the position of the theories of automatic control of the electric drive, as well as modeling in the software package of Matlab/Simulink, was used. In the masters work, a system for stabilizing the power of a centrifugal pumping unit with an asynchronous regulated electric drive in the reverse operation mode was developed.

DRIVE, ASYNCHRONOUS, CONTROL, MODELING, RESEARCH,
PUMP,MATLAB/SIMULINK