SUMMARY

The master's dissertation is executed on 147 pages and contains 83 figures, 13 tables and 6 posters A1. The dissertation structure includes the following sections:

1. Analytical review of pumping complexes control systems.
2. Synthesis of control systems.
3. Calculation and selection of electromechanical systems elements.
4. Adaptation of the efficiency observer for the investigated systems.
5. Investigation of control systems static and dynamic operating modes at variations of a given stabilization level.

The purpose of the work is to increase the energy efficiency level and pump systems operation reliability by cascade scheme that includes two pumps in condition of providing stabilize the required hydraulic network pressure.

During he implementation of the master's dissertation was used and consolidating knowledge of "Theory of the electric", "Design automation", "Automatic Control Theory".

The graphic part includes: functional and structural schemes, research results.

PUMP COMPLEX, ELECTROMECHANICAL SYSTEM, ELECTRIC DRIVE, CASCADE SCHEME, TRANSITIONAL PROCESSES, PRESSURE STABILIZATION, EFFICIENCY OBSERVER, POWER LOSS.