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ABSTRACT

The master's thesis contains 106 pages of text and has 33 drawings, 13 tables and 6 A1 posters.

The purpose of the dissertation is complex automation of loading and unloading works of grain processing complex in the conditions of incomplete information, deepening of knowledge in the field of theory of automated electromechanical systems and development of professional skills.

To achieve this goal the following main tasks were solved: on the basis of the analytical review of the transport mechanisms for the warehouse requirements for the electric drive and automation system were developed, the power was calculated and the electric motor of the screw conveyor was designed, the system of indirect vector control of the electric drive was designed and investigated, economic efficiency.

Calculation and implementation of the new diploma project were used to use the following programs: MATLAB R2013b, Microsoft Office Word 2010, Microsoft Office Visio 2010.

COMPLEX AUTOMATION, LOADING AND UNLOADING WORKS, ASYNCHRONOUS ENGINE, VECTOR CONTROL, FREQUENCY CONVERTER, SYNTHESIS, REGULATOR, MODELING, DYNAMICS