

## ABSTRACT

The MSc thesis contains 97 pages, 40 figures, 6 letters of the graphic part.

The purpose of the master's work is to develop a system of automation and control of the electric drive unit for increasing the productivity of the vertical portion batching of bulk materials with the use of an effective control algorithm for the asynchronous electric drive of the screw feeder.

The object of the study is to control the process of dosing bulk substances

The subject of the study is the algorithm for controlling the electric drive of the screw feeder.

The novelty of this work is the development of a two-stage technological process of dosing of bulk substances and the development of a control system for a screw electric drive with vector control.

From the practical point of view, the implementation of this project will increase the productivity of dosing plants without loss of accuracy.

The technological process of vertical portion batching of bulk materials was worked out. The design changes in the dispensing installation and working methods of control of the drive of the screw feeder are introduced. The simulation models for scalar control were constructed and experimental studies were taken.

FREQUENCY CONVERTER, INDUCTION MOTOR, DOSING EQUIPMENT, WEIGHT DOSING, MATHEMATICAL MODEL, AUTOMATED ELECTROMECHANICAL SYSTEM

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