SUMMARY

The diploma project includes 110 pages, 81 figures, 19 tables, 6 letters A1, 20 sources used.

The object of research is an automated line for the production of mineral fertilizers.

The purpose of the work is the research and development of an automated line for the production of mineral fertilizers.

In this thesis the calculation of power of the electric drive of the main conveyor is given. A choice is made of the type of electric motor, calculation of the power part of the frequency converter and the choice of the IF. Complex automation for the whole line is underway. A closed-loop control system is selected using feedback from signals from level sensors. To implement the control, a programmable logic controller DVP16ES200R is used. Programming language - LD. To determine the presence of substance in the bunker, a sensor of the DCE of the firm "Sensor" is used, the signal from which comes to DVP16ES200R. The technological process allows the operation of conveyors at different speeds that do not exceed the nominal value. To visualize the process, the program is written in the DOP-soft software environment. The chosen control system, by reducing the frequency, reduces the electricity consumption of the engine used, indicating its economic efficiency.

AUTOMATIC ELECTRIC, INTEGRATED AUTOMATION, INDUCTION MOTORS, FREQUENCY CONVERTERS, PROGRAMMABLE LOGIC CONTROLLERS, LYUDYNNO-MACHINE INTERFACES, BELT CONVEYORS, SCREW, DISPENSERS, BULK BINS, LEVEL SENSORS.