ABSTRACT

The diploma project is presented on 118 pages, it contains 43 drawings, 28 tables, 2 attachments and 6 graphic sheets.

Analyzing scientific and technical literature, the most promising system of electric drive is "frequency converter - electric motor".

During the execution of the diploma project, traction calculation of the hinged chain conveyor, selected engine parameters calculation, parameters calculation of the electric drive power circuit, frequency converter selection, calculation of two-mass system were performed.

As a result, the electromechanical system model is developed. The conveyor operation dynamics are studied as well.

Depending on the technological process requirements, it is possible to study hanging chain conveyors, both with technological speed regulation and without it.

Therefore, in the study were considered two variants of the model: with speed stabilization - closed system and without a speed regulator - an open control system.

Evaluated parameters were speed overriding when loading, and the transient time. For an open system, speed changing shape and effect on the value of the conveyor performance was evaluated.

ASSEMBLY CHAIN CONVEYOR, INDUCTION MOTOR, MATHEMATICAL MODEL, FREQUENCY CONVERTER, FREQUENCY CONTROL SYSTEM