ABSTRACT

Thesis for a master's degree contains an introduction, three main parts and conclusions. It also has 97 pages, including 40 pictures and list of references.

The purpose of the qualification work is to develop a measuring system manipulator.

To achieve this goal, the following tasks were performed: the main types of CMM (cantilever, portal, bridge and portable) are considered and compared; the method of operation of different scanning types and measurement of linear inductosines were analyzed; the principles of portable CMM of the "hand" type functioning was considered and the peculiarities of their structure were determined.

The shoulders of the structure were designed. A calculation scheme was created to determine the load on them.
Calculations of the housing strength, calculation of the assembly work accuracy and determination of the technological efficiency of the device were carried out.

Direct and inverse kinematics problems were solved.
Key words: coordinate measuring machine, manipulator, scanning, inductosyn, encoder.