

## **Annotation**

On the diploma project of the student of the fourth-year, group PK-61 of the Faculty of Instrument-Making Herasymchuk Mykhailo on the topic: "Portable ultrasonic flaw detector".

The aim of this bachelor's project was to develop a portable mobile flaw detector that can be easily adapted to new controls and different classes of tasks.

The first section presents an analytical review, which describes: ultrasonic vibrations, methods of ultrasonic flaw detection, provides theoretical information about ultrasonic transducers.

In the second section, which is also computational-theoretical, the piezoelectric transducer that best performs the tasks was selected and calculated. As a result, the overall dimensions of the components of the piezoelectric transducer are determined. Portability to wireless data technology is also described.

In the design and technological section, the design of the piezo sensor is designed, its drawing is created according to the previously calculated overall dimensions of the device elements.

The functional scheme of the device developed on the basis of existing analogues of a defectoscope is resulted. The calculation of key nodes in the electric circuit is made and the electric basic scheme is designed.

The developed portable ultrasonic flaw detector satisfies all set requirements.