

125000, 250000, 500000 and 1000000 Hz. Distilled water was used as the test liquid. The measurements were carried out at 22 and 44°C. Table 2, 3, 4, and 5 show the data averaged for each frequency.

The set of measured and calculated parameters forms an "image" of the liquid under study, which is subsequently compared with the "image" of the reference.

The final identification of bottled water, as well as its compliance with the established quality and quantity parameters, is carried out taking into account the permissible deviations established by the relevant standards and specifications for packaged liquid products and their containers.

4 Conclusion

To carry out continuous control of liquid packaged products and, thereby, to prevent 100% counterfeit products, it is necessary, first, to develop and put into production sensors-covers on the packaging in which the product is produced, second, at the packaging stage, to install sensors-covers and perform express diagnostics of each product using a portable automated complex, third, to form a base of "reference images" of the packaged liquid products produced (according to manufacturers), fourth, "arm" all chain stores with portable automated systems, for mandatory input control of each packaged product (bottles, cans, etc.), and fifth, organize a subsystem of state and public supervision. [3, 4].

It should be noted that the portable automated system significantly reduces the time of diagnosis, has high mobility, takes into account the conditions of identification, does not require highly qualified personnel, and also for the analysis it is not necessary to withdraw the product from sale, open the container and take a sample, which will favorably affect the overall efficiency, as it will reduce the cost of laboratory control, increasing its frequency.

The obvious result of energy saving and energy efficiency of using the method and the complex is its application for continuous control of motor and transformer oils, to ensure the technical resource of motor vehicles and transformers at electrical substations, which, according to preliminary estimates, reduces the cost of selective control and losses from unscheduled repairs by 2 times.

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