CREATION OF RESOURCE-SAVING EQUIPMENT
FOR THE MEMBRANE TREATMENT OF FOOD LIQUIDS

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The article is devoted to a new approach to the issue of technical equipment for membrane treatment of food biological liquids and development of resource-saving equipment for its implementation. The role of equipment in the membrane treatment of food biological liquids, as well as the types of constructions for modern membrane installation for obtaining purified concentrates from various types of food liquids and the issues for their further improvement are described. The necessity of creating new industrial resource-saving membrane equipment with the purpose of increasing efficiency of obtaining purified concentrates from food raw materials is determined. The results of patent search of the existing membrane equipment for the membrane treatment of food liquids are presented and their essential shortcomings are described. A new design of an industrial plant for obtaining purified concentrates from various types of food biological liquids and their further use was developed. The device of the developed plant for the membrane treatment of food biological liquids and its operating principles are described. The developed device can be used in food, pharmaceutical and microbiological industries during the membrane treatment of high molecular biological liquids (albumen-carbohydrate milk raw material, juices, various extracts from vegetable raw materials, brine), water, that require the concentration and treatment from low molecular substances. The advantages of the proposed device for membrane treatment of food biological liquids are to facilitate its maintenance and ensure the continuity of operation, simplify the replacement of the stirring element, intensify the process of purified concentrates from various types of food biological liquids and reduce the working cycle, and reduce the resource costs.

**Keywords:** food liquids, process, membrane treatment, equipment, ultrasonic.