

PROCESS OF WATER TREATMENT IN THE MANUFACTURING TEA EXTRACTS

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Today, the water that is used in the process of food production, pose strict requirements defined by special technological instructions. They have established maximum allowable number of substances that may be contained in the liquid. For this reason, the water that is used directly in the process of manufacturing tea extracts, is treated specially

The need for compliance with specific requirements for water quality, which is used in food industries requires introduction of technologies for purification of drinking water industry. In addition, people suffering from poor-quality food products, manufactured using purified drinking water inefficiently.

For water treatment of various types of preparation in the business of food production different methods of membrane processing, filtration, microfiltration, ultrafiltration, nanofiltration, reverse osmosis are used.

From analyze same theoretical data, we can conclude that compared to other membrane processes while using MF and UF suspended solids, viruses, bacteria are removed from the water without the high cost of electricity. In addition, the uses of MF and UF in the purification of surface water are especially promising because these methods allow to obtain clean drinking water without the use of reagents.

The use of UF in the preparation process of water has several advantages: high energy efficiency and high process does not require the use of chemicals, water pH is kept constant. For further membrane water treatment methods should be used RO and electrodialysis, which now mainly used in the purification of water, mainly desalination of salt and brackish water to produce drinking water with low salt content. During the RO fluoride ions are trapped membrane with other ions.

For hosted the research on the selection of optimal parameters of the water treatment on the research laboratory “Nanotechnology in Food” of Kharkiv State University of Food Technology and Trade was developed a scheme of the laboratory water treatment plant by semi-batch action (fig.).

The laboratory plant can be used to investigate technological parameters in the process of the water treatment, as well as to improve the hardware equipment of the production lines for manufacturing tea extracts.

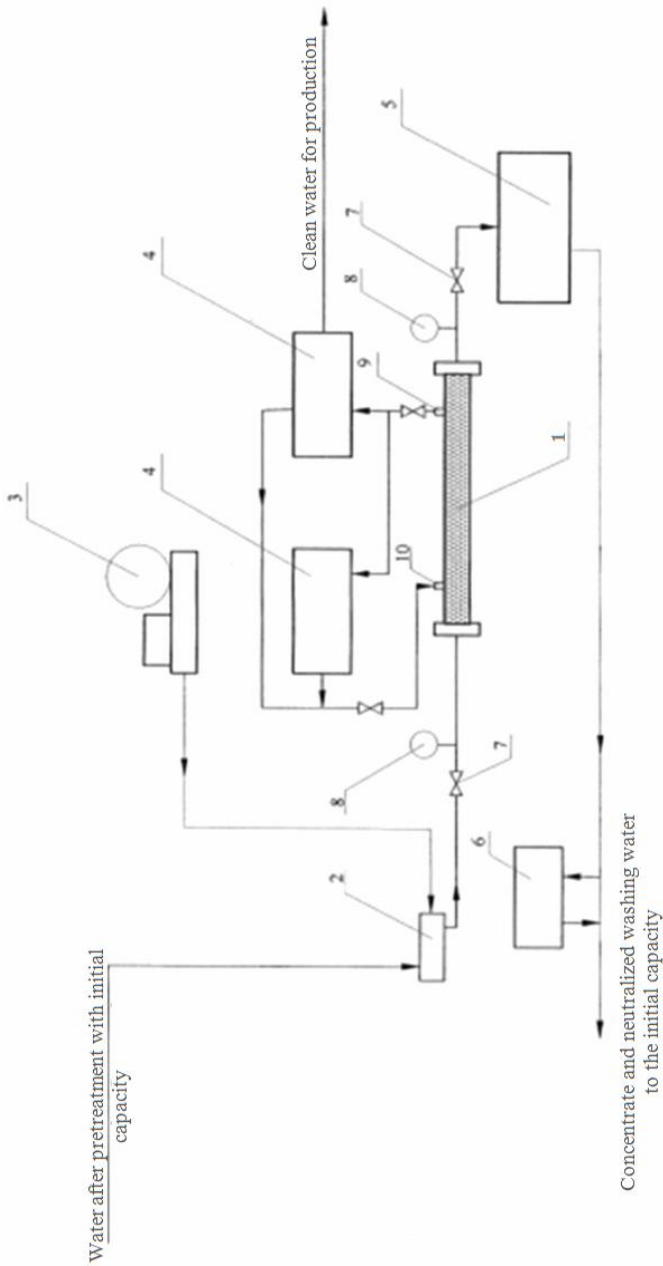


Fig. Scheme of the ultrafiltration plant for water treatment by semi batch: 1 – membrane model; 2 – centrifugal pump, 3 – compressor; 4 – reagent tank; 5 – concentrate tank; 6 – neutralization tank; 7 – shutoff and control valves; 8 – manometer; 9 – upper side choke; 10 – lower side union