The article discusses new energy-saving low-waste methods of producing concentrated products based on fruit and vegetable raw materials: candied fruits, pasty beverage concentrates, dry confitures and separate concentrates. The proposed method of concentrated products manufacture involves the following core processes: milling fruit and vegetable raw materials, boiling down under vacuum and vacuum drying. Boiling of the puree under vacuum in the conditions of constant mixing of the concentrate is assumed for the production of paste-like beverage concentrates and confitures. For the manufacture of candied fruit and separate concentrates vacuum drying of raw materials with subsequent grinding is to be used.

The dependence of the heat transfer coefficient on the number of turns of the mixer, in the production of separate concentrates from vegetable raw materials is determined. The efficiency of using a device with a simple and reliable construction for mixing and heating viscous food products is proved. Also it helps to reduce the length of the product processing process and improve the quality of the finished product due to better mixing and intensification of the heat transfer process by using spiral metal tubular designs for the supply of coolant, which contributes to the increase of the contact area of the product with heating elements.

The scrapers are located on the helix in such a way that they block each other while driving. When rotating the mixer, the scrapers move near the surface of heat exchange wall of the apparatus, forming a screw surface, which facilitates the turbulentization of the wall laminar layer of the product, it prevents it from sticking, eliminates stagnant zones, resulting in temperature equalization and uniform flow of the process.

**Keywords:** concentrated products, vegetable raw materials, mixing device, heat transfer.