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The invention refers to a technique for concentration of different aqueous solutions and may be used in installations for products concentration in the food and pharmaceutical industries and for sea water demineralization.

The process for aqueous solutions concentration consists in binding the aqueous solutions with a hydrate forming agent which forms hydrates mixture, gaseous hydrate forming agent and materials concentrate, separation of the obtained hydrates from the materials concentrate, washing and melting thereof, collection of the obtained concentrate and thaw water, fluidization of the hydrate forming agent. The novelty consists in, that washing and melting of the hydrates is carried out at hydrate forming pressure, the hydrates washing being realized with the liquefied hydrate forming agent, which in mixture with the material concentrate is remixed with the aqueous solution subjected to the concentration, and the thaw water is heated at the expense of the hydrate forming agent condensation and thereafter it is used for hydrates melting.

The result of the invention consists in decreasing the materials and used power consumption losses, as well as in increasing the installation productivity.