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# Investigation of operation processes in a vortex mixing device

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*Multicomponent gaseous media formation is widely applied in various fields of technology to prepare emulsions and suspensions and to obtain a homogeneous medium with a controlled concentration. This article estimates the application potential and specifies the problems of device developments. There is an example of a mixing circuit in the vortex flow. The experiment procedure to evaluate the device effectiveness is provided. A mathematical model for numerical calculations with distributed parameters to determine the nature of the flow in the vortex mixing device is devised.*

**Keywords:** *mixing system, the vortex flow, the experimental installation.*

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