

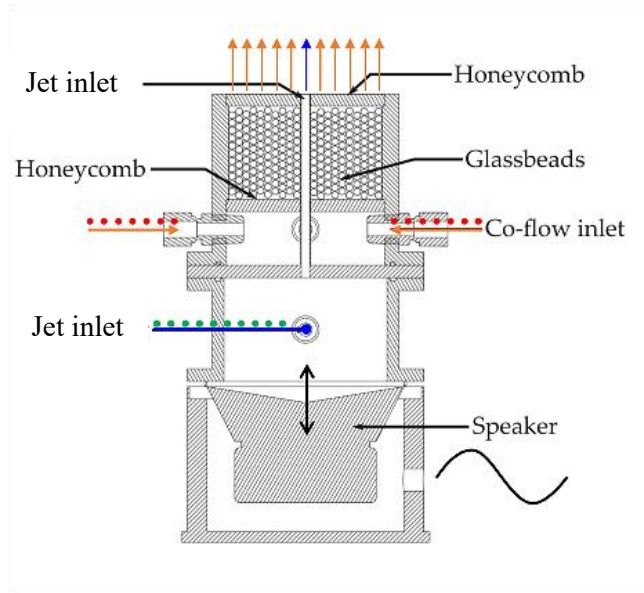
Bachelor's or Master's thesis

“Development and construction of an optimized flow experiment for particle-laden flows”

Background:

In mixing experiments with particle-laden flows, detailed insights into flow and particle properties can be gained. However, existing experimental designs often offer optimization potential, especially for experiments that require precise control of particle density and pressure losses.

The aim of this work is to design an optimized flow experiment that is specifically suited for experiments with particle-laden flows. Modifications will be made to ensure a uniform flow and easy cleaning.



Tasks:

- Literature research: Investigation of existing designs and identification of weak points in the application for experiments with particle-laden flows
- Design: Development of a CAD model of the optimized experiment with a focus on flow stability, loading options and cleaning optimization
- Construction: manufacture using suitable materials and processes
- Validation: Checking the performance in terms of flow stability and uniformity of the seeding distribution

Requirements:

- Interest in experimental fluid mechanics
- Basic knowledge of CAD software
- Teamwork and communication skills

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