



Pump Using Ultrasonic Transducer and Opposing Surface

Control Engineering Laboratory

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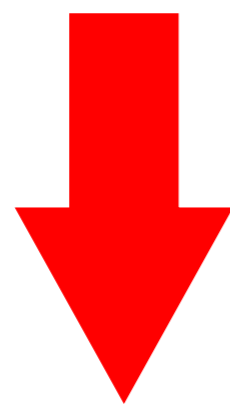
Introduction

Conventional pump

There is a limit of durable life due to friction and wear.



<http://allpumpservices.co.za/>

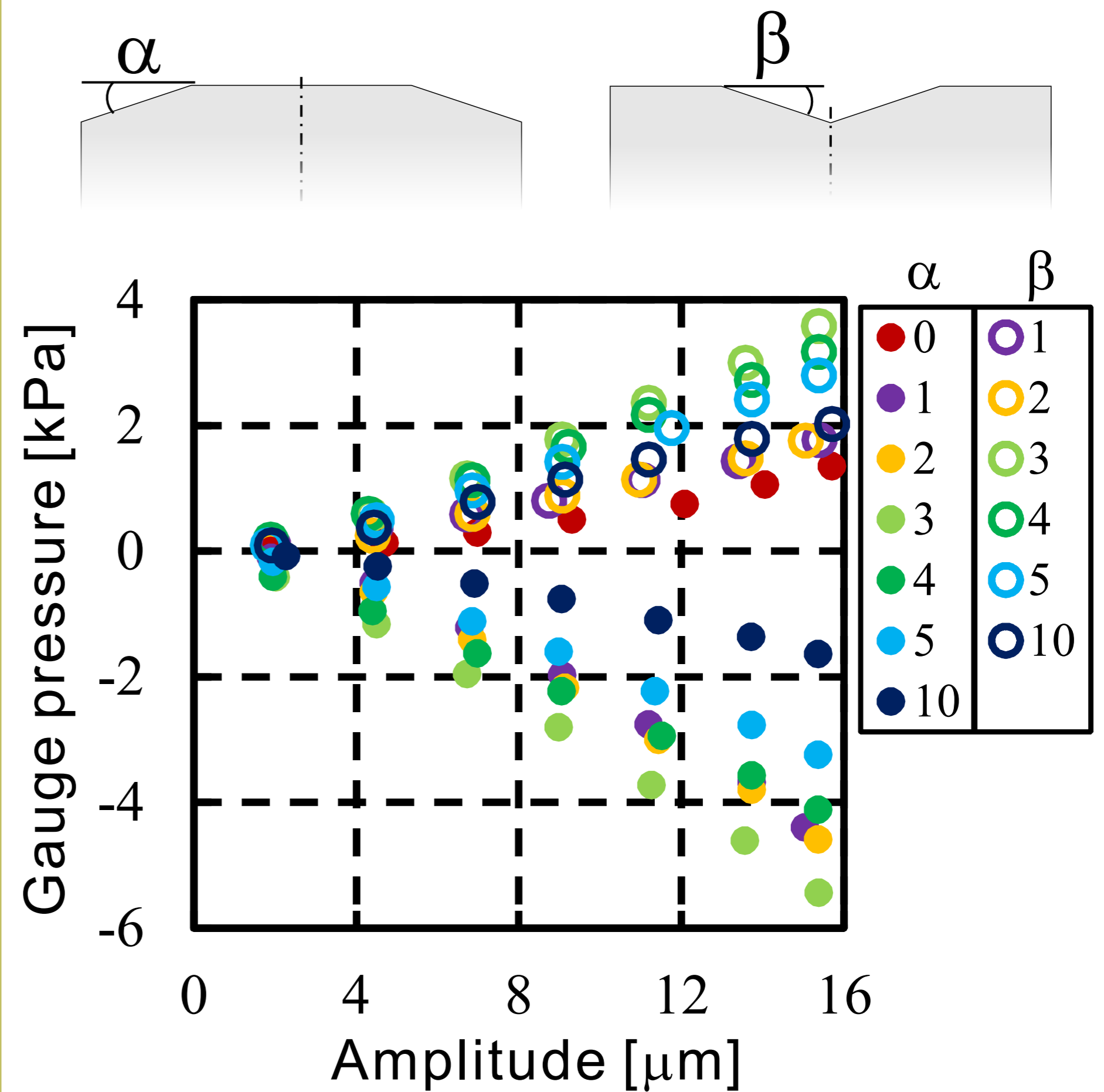


<http://www.directindustry.com/>

Ultrasonic pump

- Having no sliding parts
- Life time seems longer
- Avoid use of magnetic material
- Use in special environment

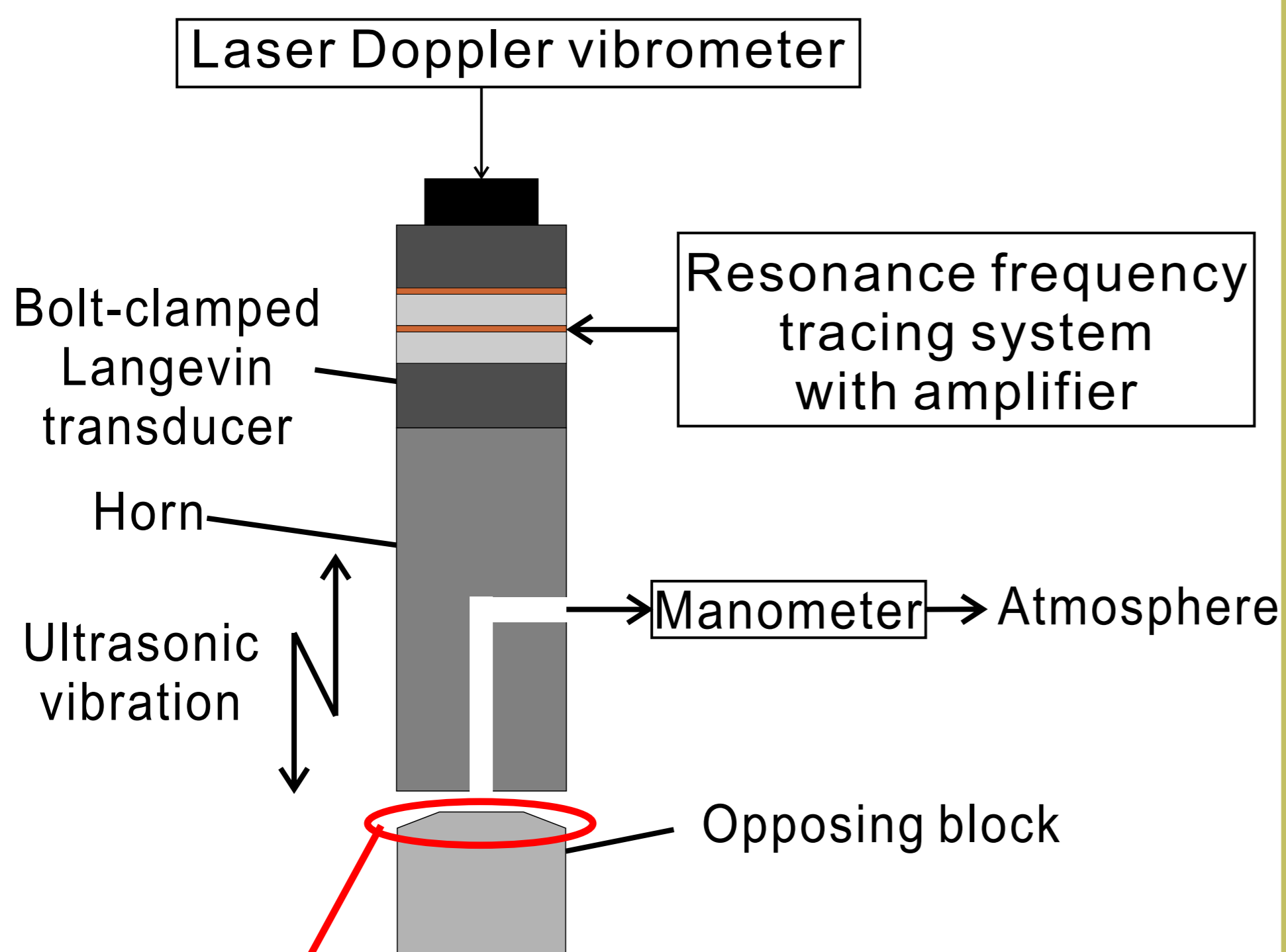
Experimental result



Taper angle → Head
Taper area → Direction

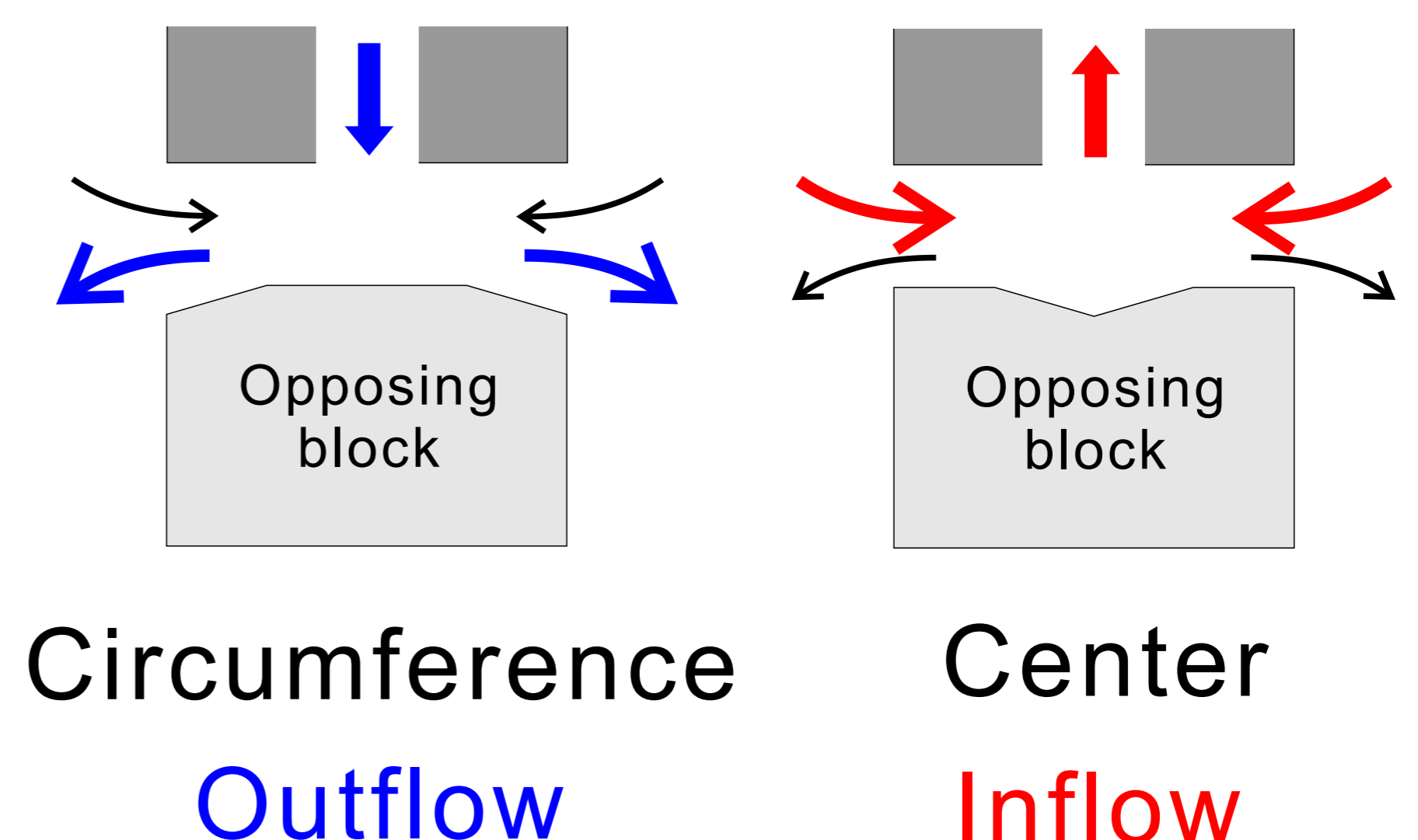
Experimental setup

Place the block opposite vibrating surface



Measure gauge pressure by changing the opposing surface's shape

Pump effect



Future plan

Elucidation of principle
Improvement of performance