

## Mads Clausen Institute

### Linear Actuator Lab

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| Key words:  | Actuators, Dynamic Mechanical Analysis, Vibration Analysis  |
| Applications:   | Flow transducers/ultrasonics, material testing, strain gauge analysis, control of actuators.  |
| Profile (Research focus and expertise relevant for industry): | The focus is on measurement and analysis of actuator systems from small (piezoelectric transducers) to large (hydraulic cylinders) scale as well as analysis of control strategies for said actuators.  |
| Service offer:  | <p>Vibration analyses in actuator systems.</p> <p>Mechanical material testing including strain gauge tests.</p> <p>Actuator load testing.</p>   |
| Labs and Equipment:   | Currently we have access to a vibrometer measuring up to 10mm/s velocities in the low MHz range and we have a DMA (TA Q800) tester for material testing, up to 18N force with 10uN resolution and 1nm strain resolution.  |
| Projects:   | <ul style="list-style-type: none"> <li>• Consultancy for measuring vibration profiles of single-side access ultrasonic transducers.</li> <li>• Consultancy for measuring vibrations in primary and secondary windings of an induction motor.</li> <li>• Characterization of materials for project on mechatronics 3D printing.</li> </ul> |