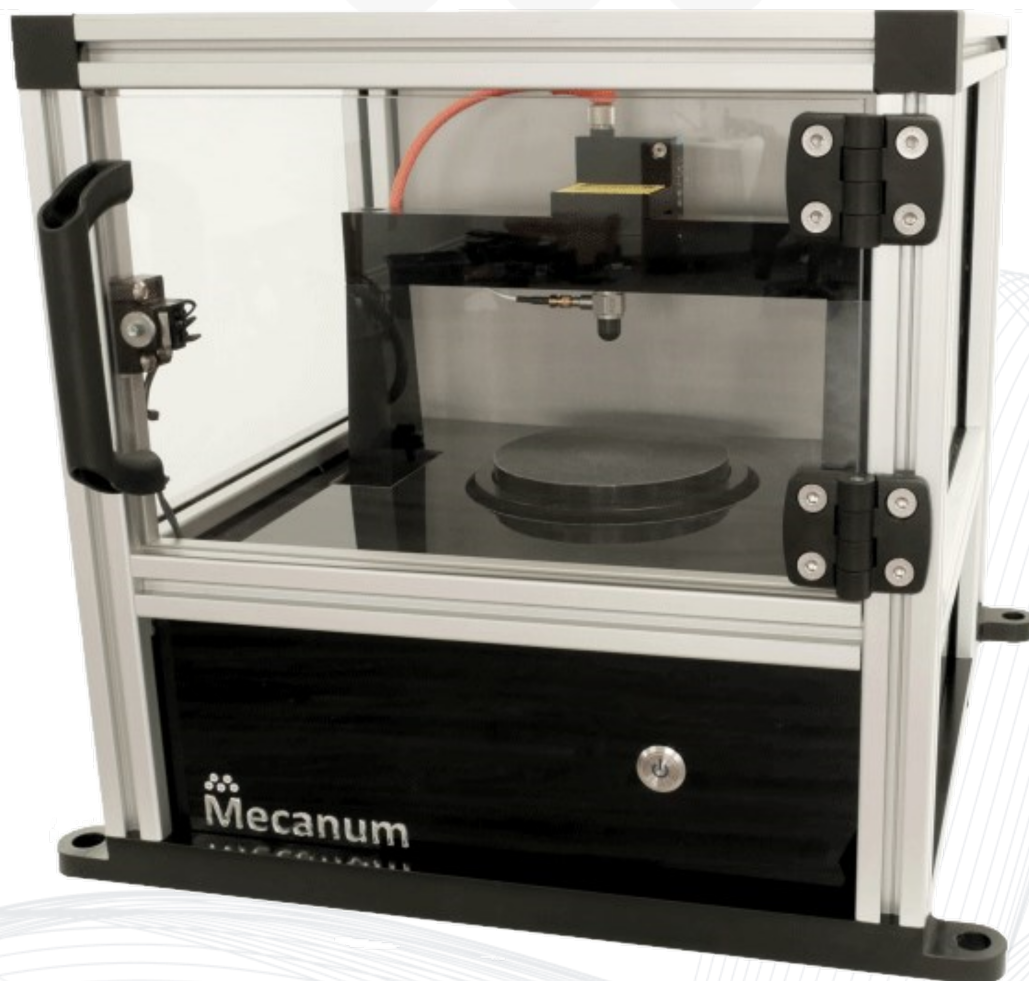


QMA

Quasi-Static Mechanical Analyser *ISO 18437-5*

The QMA measures the elastic properties of porous acoustic material: *Young's Modulus*, *Poisson's Ratio* and *Damping Loss Factor* according to ISO 18437-5.

It can be used for material characterization and quality control.



* Please note that the technical aspects of our equipment may be subject to change without notice.

Measuring System

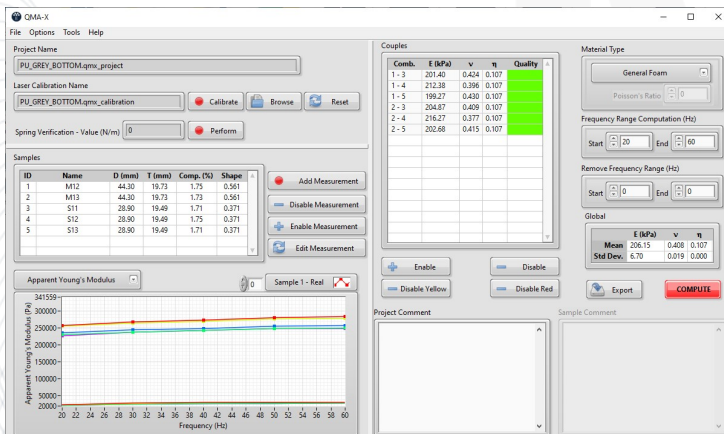
Test Bench

- Automated test bench with:
 - Detection of sample height
 - Control of sample compression ratio
 - Control of mechanical excitation
- Gauges for static calibration
- Certified verification sample
- Compression plate set
- Sample centering tool set

Software QMA-X



- Fully Automatic control of measurement procedures
- Three operating modes
 - Static calibration and dynamic verification
 - Stiffness VS compression measurements as a function of the compression ratio
 - Measurement of mechanical parameters (*Young's Modulus E*, *Damping Loss Factor η* and *Poisson's Ratio ν*)



Optional Complements

- Circular Cutter (29, 44.44 and 100 mm)
- Porous material slicer (29, 44.44 and 100 mm)

Technical Data

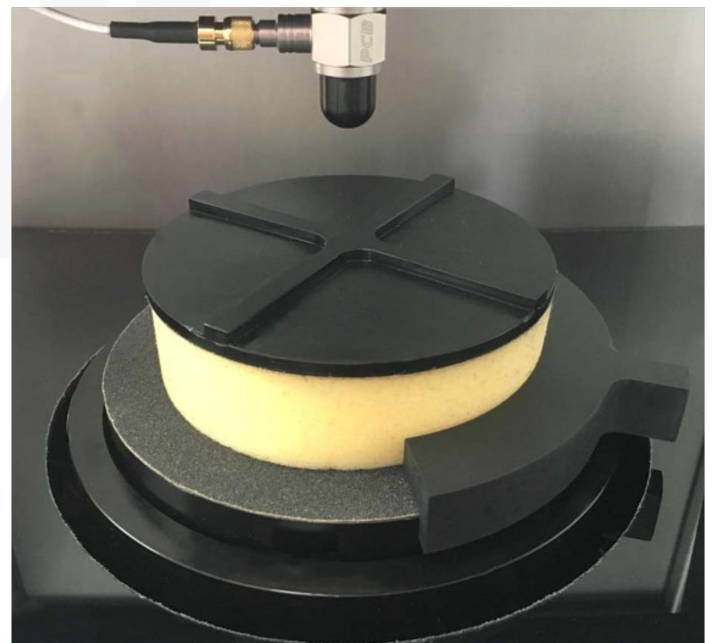
Test Bench

- Dimensions: 457 (L) x 485 (W) x 398 (H) mm
- Weight: 35 kg
- Power supply: 100-240 Vac / 50-60 Hz 90 W
- Sample diameter: 29 to 100 mm
- Sample height: 5 to 50 mm
- Communication: USB 2.0 type A
- Mechanical exciter: Piezoelectric exciter
- IEPE force & accelerometer transducers
- Laser distance sensor

Measuring Range

- Frequency - f : 20 Hz to 60 Hz
- Young Modulus - E : 300 Pa to 34 MPa*
- Poisson's ratio - ν : 0 to 0.499
- Damping Loss Factor - η : 0 to 0.999

*Depends on material diameter



Warranty and Support

All Mecanum characterization systems are covered by a one-year limited warranty and technical support. The Mecanum warranty is valid only on manufacturing defects and does not cover damage due to abuse or improper use of the equipment.

* Please note that the technical aspects of our equipment may be subject to change without notice.

ETA

Oberst beam ASTM E756-05

The ETA system measures *Young's Modulus* and *Damping Loss Factor* of elastic or viscoelastic materials.

It can be used for material characterization or quality control.



* Please note that the technical aspects of our equipment may be subject to change without notice.

Measuring System

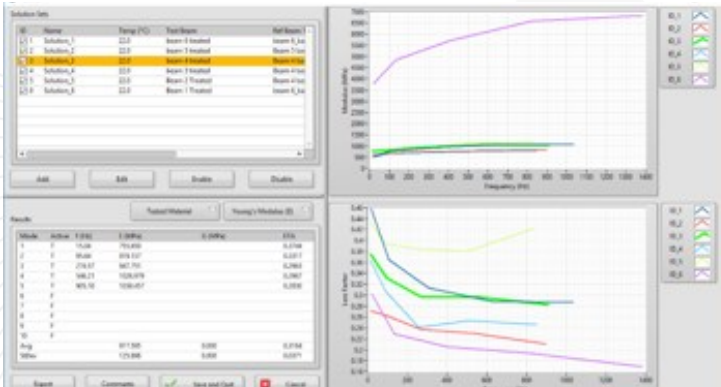
Test Bench

- Heavy duty test bench for cantilever measurement beams
- Magnetic exciter & receiver transducers
- Certified reference test beam
- Set of aluminum and steel support beams
- Set of ultra-thin ferromagnetic pellets for use on non magnetic beam

Software ETA-X



- User Friendly software which guides the user during each measurement step
- Three post-processes available depending on measurement method: single, one/two sided treated or sandwich beam
- Computation of Young's Modulus and Damping Loss Factor



Optional Complements

- Test beams
- Adhesive



Technical Data

Test Bench

- Dimensions: 499 (L) x 290 (W) x 175 (H) mm
- Weight: 30 kg
- Max sample height: 30 mm
- Sample free length range: 135 to 315 mm
- Max roots width: 35 mm

DAQ

- Dimensions: 216 (L) x 217 (W) x 138 (H) mm
- Communication USB 2.0 Type A
- 24-bits inputs and output with integrated power amplifier

Sensors

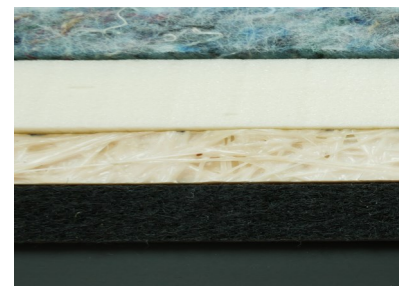
- Magnetic exciter
- Magnetic receiver

Compatible materials with Oberst beam Method

- Elastic material
- Viscoelastic materials
- Rigid Foams (ex. Headliners)
- Compressed shoddy (fire wall assembly)
- Composite rigid materials

Measuring Range

- Frequency: 50 to 5000 Hz
- Temperature: -50° to 130° C
- Young Modulus: No limitations, depends on beam characteristics
- Damping Loss Factor: No limitation, depends on beam characteristics



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