



# Product Leaflet

# IN-SITU

# Absorption

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# IN-SITU ABSORPTION

A truly in situ method to accurately measure the properties of your material

Microflown Technologies offers a complete solution to measure the acoustic properties of materials with its In-situ absorption setup.



There are many unwanted noise sources in our industrialised society. Acoustic noise pollution can be reduced by absorbing sound energy. Absorbing material packages are used in many applications to attenuate sound. Knowing exactly the acoustic properties of your materials and the effectiveness of the applied material packages is a requirement to successfully reduce noise levels. The In-situ absorption setup is a solution to achieve just that.

Destructive testing of material samples is no longer required.

Furthermore, sound absorption can be measured under any angle of incidence. The extremely high spatial resolution that the system provides, enables the analysis of inhomogeneous, e.g. perforated materials.

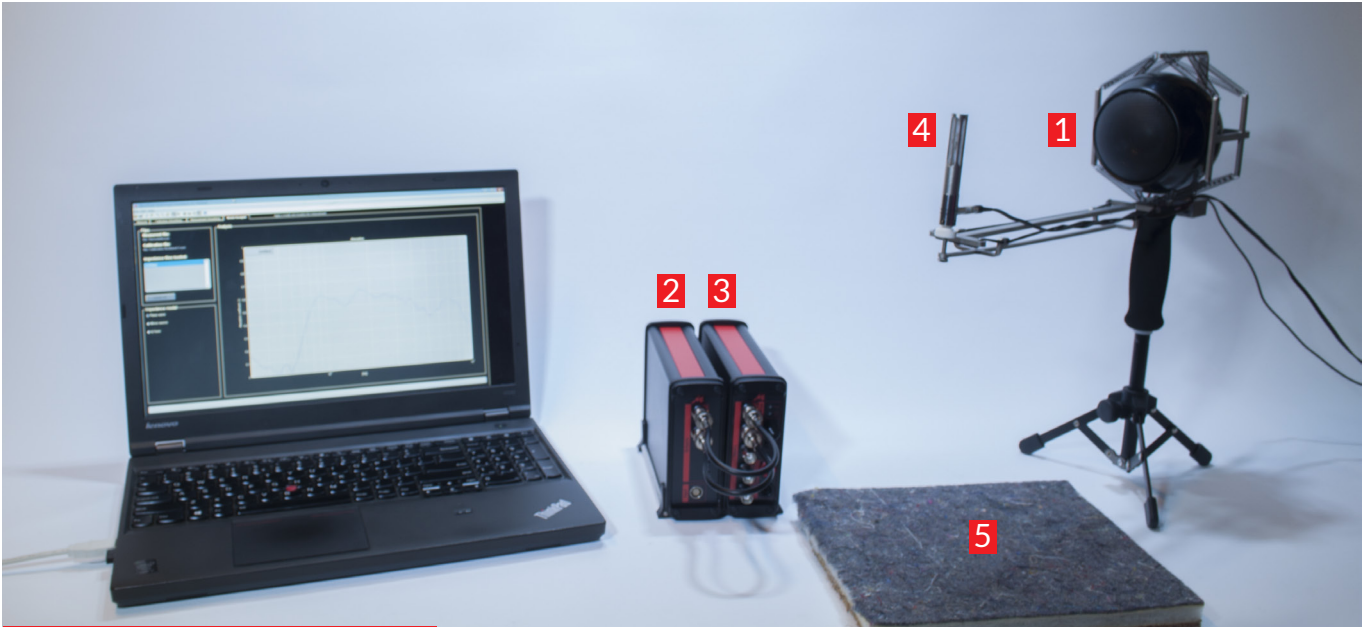
The system can even measure, in addition to material samples, curved materials and complete assembled parts. As the in situ method also works with relative movement between sample and probe, end of line control for materials, or testing of the complete acoustic package in final assembly lines, is made possible.

## FEATURES

The In-situ Absorption system at a glance

- Frequency range 300Hz - 10kHz
- In situ method
- Measurement of:
  - Impedance
  - Sound reflection coefficient
  - Sound absorption coefficient
- Non destructive method
- Normal & oblique angles of incidence
- Flat & curved surfaces
- Homogeneous & inhomogeneous materials
- Easy to operate
- Suitable for:
  - Product development
  - End of line control before and after assembly





## IMPEDANCE GUN POINT & MEASURE

With a small, handheld impedance gun the acoustic absorption, reflection or impedance can be measured in just a few minutes, broad band and under normal and oblique angles.

With a sound source at 23cm from the probe, noise is generated towards the sample. The impedance gun is equipped with a system designed to decouple the sensors from structure born vibration generated by the spherical loudspeaker. The sound pressure and acoustic particle velocity are measured directly on the surface of the material. The absorption & reflection coefficient can be obtained directly from the measured impedance as the complex ratio of sound pressure to particle velocity.

- 1 Impedance Gun**  
Hand-held spherical loudspeaker setup enabling fast & in-situ absorption measurements.
- 2 Scout | Data Acquisition**  
Highly accurate 24 bit, 4 channel data acquisition. The device is USB powered, no additional power cables are required.
- 3 MFPA-2 | Signal Conditioner**  
Signal conditioning unit for the PU probes, supplying power and preamplification.

- 4 PU Sensor**  
Broad band PU probe (20Hz-10kHz) 1x particle velocity sensor and 1x microphone

- 5 Sample**  
Measure your sample in-situ. Please keep a minimum sample size of 30cm x 30cm



**"POINT, MEASURE AND...  
...DIRECTLY OBTAIN THE ABSORPTION IN MINUTES"**



# REDUCE THE PRESSURE IN YOUR WORK GO FOR PARTICLE VELOCITY



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