Kundt’s tube

Kundt’s tube measurements are the most common way to determine the absorption coefficient and surface impedance of acoustic materials. Tests are run in compliance to the NF EN ISO 10534-2 standard (transfer function method).

Principle

The sample of tested material is placed in a stationary acoustic field generated by a speaker under normal incidence. The absorption coefficient and the impedance are calculated using the transfer function between two microphones. Relative error between the microphones is eliminated by an inversion procedure.

Moyens d’essais

Three different diameters of tube are used in CTTM allowing us to adjust the frequency range and the size of the samples.

- **Small diameter Ø 29 mm**:
  - Frequency range: 400 Hz-6,4 kHz,
  - Microphones distance: 20 mm
  - Maximum pressure level: 155 dB (white noise)

- **Medium diameter Ø 45 mm**:
  - Frequency range: 200 Hz-4,3 kHz,
  - Microphones distance: 34 mm

- **Large diameter Ø 100 mm**:
  - Frequency range: 200 Hz-1,9 kHz,
  - Microphones distance: 76 mm
  - Suitable for inhomogeneous materials.

Customized Kundt’s tube

On customer request we can build and provide a complete equipment (tube, microphones, sources, software) according to custom specifications.