



Sound Absorption Tube

AFD 1000 - Sound Absorption Tube Set



Measuring technique

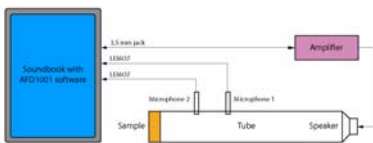
The AFD 1000 is a measuring system for determining the sound absorption coefficient, the sound reflection factor and the impedance ratio of materials in the laboratory on the basis of the Transfer-function method described in DIN EN ISO 10534 (ISO 10534-2).

The measuring results allow the direct computation of the rated sound absorption coefficient of the material according to DIN EN ISO 11654 (ISO 11654).

Data Acquisition:

The Soundbook analyzer from SINUS Messtechnik GmbH is able to fulfill both control and acquisition functionality:

- 4 simultaneously-sampled analogue input channels
- LEMO7 connector
- ICP power supply
- Sampling rate: 102.4 kHz
- Input range: +/- 10 V
- Output signals from the PC-audio board



Operation of AFD 1000

TECHNICAL DATA

Sound Absorption Tube:

- Length of the tube: 345 mm
- Inner diameter of tube: 40 mm
- Length of specimen holder: 285 (300) mm
- Distance of microphones s
 - s_1 : 35 mm
 - s_2 : 175 mm
- Distance between microphone and sample z_1
 - z_{11} : $70 + 15 = 85$ mm
 - z_{12} : $210 + 15 = 225$ mm
- usable frequency range
 - Δf_1 : 400 Hz – 4 kHz
 - Δf_2 : 100 Hz – 900 Hz

Wires and connectors:

- LEMO7/BNC cable 1.5 m for the microphones
- Jack 3.5 mm to cinch 1.5 m for the output signal from the PC to the amplifier
- Speakon / Speakon cable between amplifier and Tube

Dongle:

Type USB 1 for the AFD 1001 software

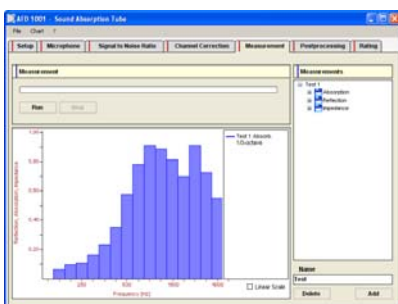
Tools:

hollow punch

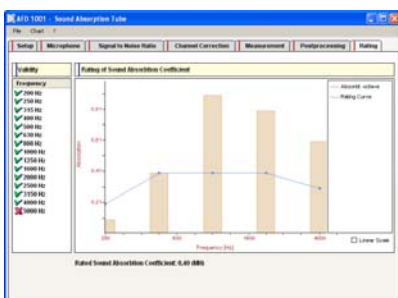
- Diameter: 40 mm
- Height: 80 mm

Special:

Possible adjustment of tube dimensions to frequency range on demand.



AFD 1000 Software: Sound Absorption coefficient as a function of frequency



AFD 1000 Software: Rating of the sound absorption coefficient

Microphones:

- type: Microtech Gefell M365
- 1/4" ICP-powered, BNC
- class: 1
- frequency response: 20 Hz – 20 kHz
- max. sound pressure level: 130 dB
- sensitivity: 12.5 mV/pa