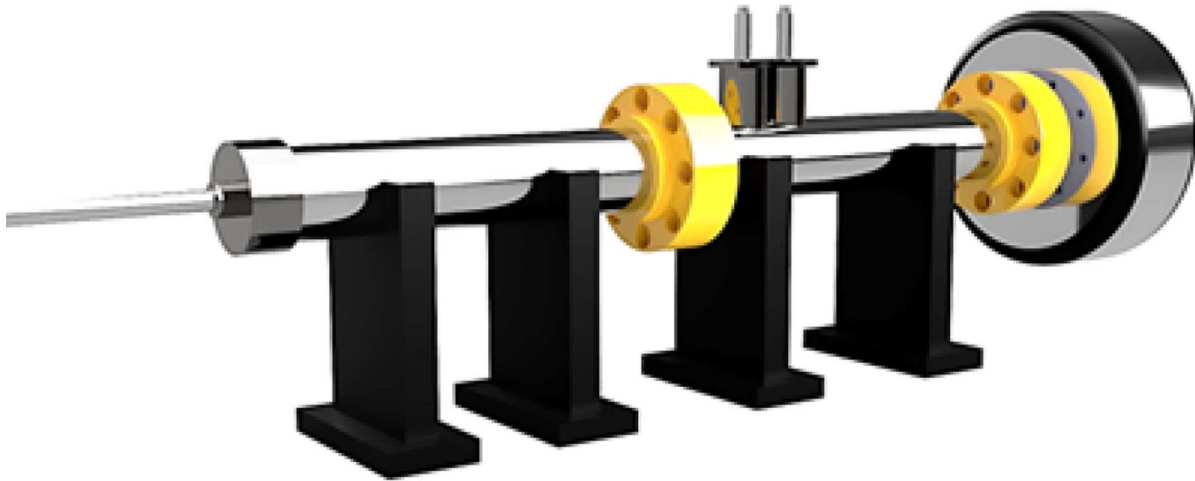


T-SONUS: PRECISION ACOUSTIC TESTING FOR MODERN MATERIALS

T-SONUS Impedance Tube measure the Absorption and transmission loss performance of materials

ISO 10534-2, ASTM E1050 and ASTM E2611
2, 3 or 4 Microphones Method



T-SONUS: PRECISION ACOUSTIC TESTING FOR MODERN MATERIALS.

Impedance tube, sound absorption and transmission loss

In real-world conditions, acoustic absorbers are often large, structurally complex, and integral to sophisticated acoustic designs. They are exposed to diverse sound fields where incident sound waves arrive from multiple directions.

The T-SONUS Impedance Tube Kit provides a precise, controlled environment for characterizing material properties under normal incidence. The system includes two or three tubes with diameters of 16 mm, 30 mm, and 100 mm, covering a broad frequency range. Each tube is equipped with a mounted loudspeaker, delivering a highly controlled sound field generated by a signal generator and amplified for accurate measurement.

A four-channel Data Acquisition System (DAQ) captures all measurement signals and seamlessly transfers data to the analysis software.

Precision microphones (available in Class 1 or Class 2) measure sound pressure levels at defined locations along the tube. Based on the measured frequency response functions between these points, the T-SONUS software calculates key acoustic properties with high accuracy.

The T-SONUS Impedance Tube Kit enables detailed measurement of:
Sound Absorption Coefficient
Sound Transmission Loss

All measurements are fully compliant with ISO 10534-2 and ASTM E1050-08 standards

Tube Models and Frequency Ranges

T-SONUS T100A (100 mm tube): 50 Hz – 1600 Hz
T-SONUS T30B (30 mm tube): 800 Hz – 6300 Hz
T-SONUS T16C (16 mm tube): 2500 Hz – 10,000 Hz

Microphones

¼" microphones, Class I or Class II precision
Frequency Response: 20 Hz to 20 kHz
BNC to SMB connector interface

T-SONUS offers a reliable, flexible solution for the characterization of acoustic materials — delivering precision, compliance, and ease of use in a compact and robust setup.

T-SONUS: PRECISION ACOUSTIC TESTING FOR MODERN MATERIALS.

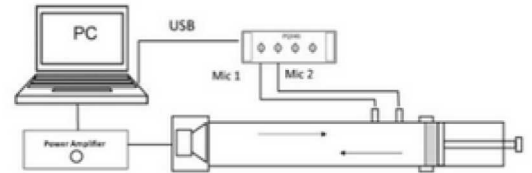
SPECIFICATION	T-SONUS T100A	T-SONUS T30B	T-SONUS T16C
Inner Diameter	100 mm	30 mm	16mm
Frequency Range	50 Hz to 1600 Hz	800 Hz to 6300 Hz	2.5 kHz to 10 kHz
Measurement	Sound Absorption, Sound transmission Loss		
Data acquisition	4 Channels ICCP input A/D converter 16/24 bit		
Microphones	¼" Class1 20 Hz to 20 kHz with BNC to SMB connector		
Power Amplifier	50 W. Class D		
Sound Source	4" loudspeaker 20W 4ohm		
Sound calibrator	94/114 dB at 1000 Hz		
Standards	ISO10543-2, ASTM E1050-08, ASTM E3611-09, GB/T- 18696		
Ambient conditions	0 – 40 C (32 – 140 F), 10 – 90% RH, 650 – 1080 hpa		
Storage temperature & humidity	-10 – 50 C (14 – 122 F), 0 – 70% RH		

T-SONUS: PRECISION ACOUSTIC TESTING FOR MODERN MATERIALS.

For absorption Coefficient

Tube Diameter (mm)	Tube Length (mm)	Frequency Range (Hz)	Sample holder length (mm)	Tube Type
100	970	50-1600	320	TSONUS T100A
30	585	800-6300	300	TSONUS T30B
16	320	2500-10000	210	TSONUS T16C

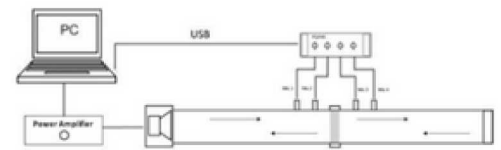
Sound Absorption Measurement



For transmission loss

Tube Diameter (mm)	Tube Length (mm)	Frequency Range (Hz)	Sample holder length (mm)	Tube Type
100	970	50-1600	850	TSONUS T100A
30	585	800-6300	520	TSONUS T30B
16	320	2500-10000	560	TSONUS T16C

Sound transmission loss Measurement setup



TSONIC Software

- The software covers the full procedure , right from calibration to measurement and report generation
- Automatically corrects for environmental factors, including weather variations, internal tube losses, mounting ring and grid effects, and adjusts the sound pressure level inside the tube for optimal accuracy.
- Includes advanced modules:
 - Microphone Acoustic Center Detection
 - Project Comparison and Merging Tools
 - Data Averaging Options
 - Air Cavity Simulation Tool
 - Acoustic Penetration Depth Analysis

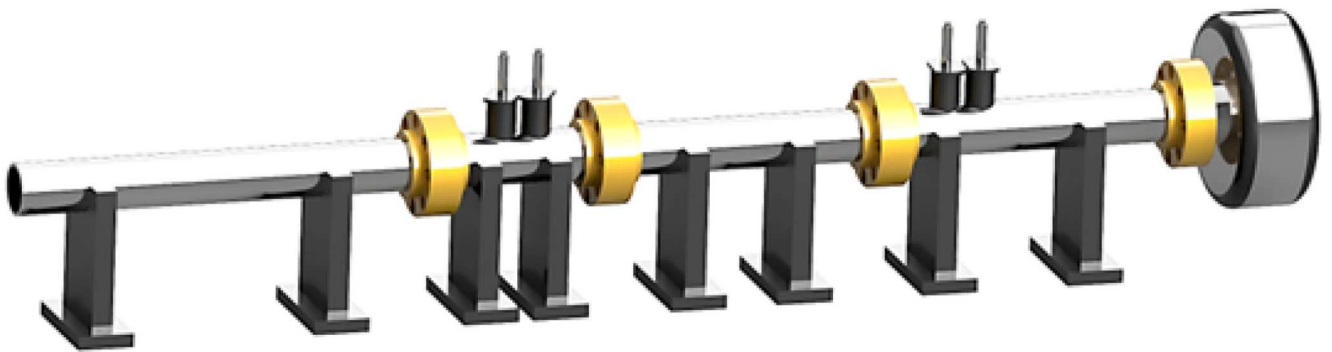
OPTIONAL ACCESSORIES

- Porous material slicers and circular cutters
- Resistive screen and fabrics sample holder
- weather station

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CONTACT US

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