

TOR

Reflection and Transmission tortuosity Meter

Measurement of the *tortuosity* (α_{∞}) and the *Equivalent length* Leq in transmission (low resistivity materials) or reflection (high resistivity materials). With the optional two-gas method, measurement of the *thermal characteristic length* Λ' and *viscous characteristic length* Λ .



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

Measuring System

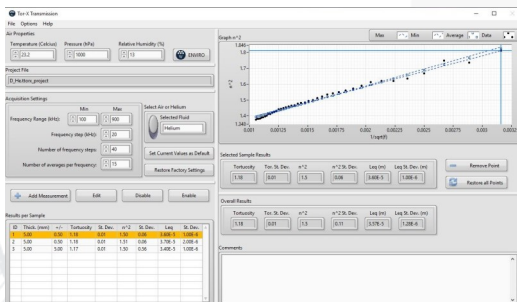
Test Bench

- Transmission Test Bench
- Reflection Test Bench
- Two channels digital scope with integrated signal generator
- Wide band air-coupled ultrasound emitter and receiver with their signal conditioners
- High frequency high voltage power amplifier
- Works with 100 mm diameter circular samples and a maximal thickness of 25.4 mm



Software Tor-X

- Two modules: transmission and reflection
- Automatically controls all measurement steps
- Optimized frequency dependant waveform generation and response windowing
- User friendly GUI with step by step procedure



Technical Data

Transmission Test Bench

- Dimensions: 254 (Ø) x 298 (H) mm (two-gas option: 292 (Ø) x 446 (H) mm)
- Mass: 3 kg (two gas option: 6 kg)

Reflection Test Bench

- Dimensions: 305 (L) x 216 (W) x 215 (H)
- Mass: 2 kg

DAQ

- 2 input channels, 500 MHz/channel scope
- 125 MSamples/sec Waveform Generator
- Communication: USB 2.0 Type A
- Gas control unit for two-gas option

Wide Band Ultrasound Transducer

- Unfocussed planar transducers
- Freq: 10 kHz—5 MHz
- Q-Amp Signal conditioner for receptor
- V-Pole High Voltage Polarization Supply for transmitter

High Frequency High Voltage Power Amplifier

- Output: 0 to ±150 VDC, 0 to ±300 mA
- Input: 0 ±3VDC
- Frequency: DC to 2.6MHz
- Input Impedance: 50 Ω
- DC Voltage Gain: 50 V

Optional Complements

Two-Gas Transmission method

- Transmission Test Bench with pressurized enclosure
- Gas Control Unit
- Two-Gas Tor-X Transmission Software

Sample material preparation & Measurement help

- 100 mm Slicer
- 100 mm circular cutter
- Mecanum Enviro Station

Measurement Range

- Recommended first measurement frequency range (kHz): 100 to 900 by step of 50
- Maximal frequency range (kHz): 60 to 1000
- Min and max tortuosity: 1 to depends on material

Special Requirement

- Compressed Argon tank with its pressure regulator (Only for Two-Gas transmission method)

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.