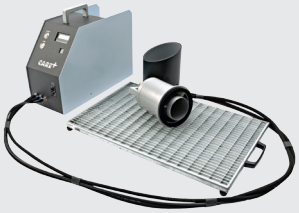
Measurement Systems – Innovative Technologies for Automotive Acoustics

AFR SYSTEM
Airflow resistance of porous materials

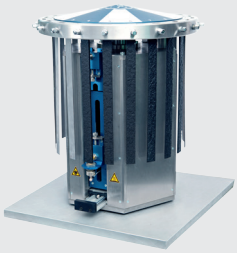
Alpha Cabin
Non-destructive measurement of acoustic absorption of materials, molded parts or complete modules

Apamat
Overall efficiency of acoustic materials

Care+
Non-destructive airflow resistance measurement of porous materials

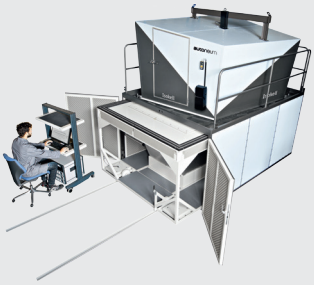


Carrousel
Loss factor and dynamic stiffness analyzing system for damping materials. Holds up to 20 samples at a time



ELWIS
Acoustic and structural Biot parameters of porous materials

Isokell
Acoustic insulation of materials, molded parts or complete modules



PORPOS
Porosity of felts and foams

Advantages of Autoneum's measurement systems:

- Accurate, reliable and immediate measurements
- Facilitated development and enhancement of vehicle-specific sound packages
- Simple and intuitive operation thanks to user-friendly software
- Technical support from Autoneum experts
- Technology standard recognized throughout the industry that is used by vehicle manufacturers and suppliers

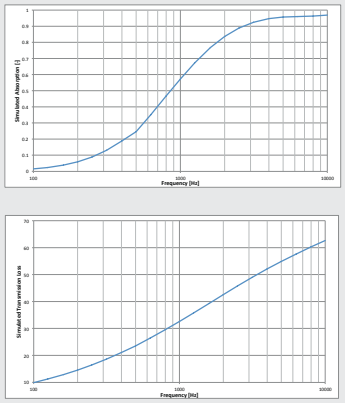
ELWIS-A and ELWIS-S

Porous Material Analyzing System for **A**coustical and **S**tructural Parameters

Advantages:
- Complete characterization of porous materials
- Powerful software yields nine key parameters
- Fully automatic computer-controlled measurement and evaluation process

Material Characterization
- Porosity (from Autoneum's PORPOS measurement system or technical literature)
- Air flow resistivity
- Tortuosity
- Pore shape factor
- Viscous characteristic length
- Thermal characteristic length
- Loss factor
- Young's modulus
- Poisson's ratio
- Normal incidence absorption – measured according to ASTM (E-1050) and ISO (10534-1/2)

Simulation*



*Simulation provided by Autoneum's VisualSISAB simulation software – not included in ELWIS system.

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