

Static Airflow Resistivity meter

The system is specifically designed to obtain a reliable measurement of the static airflow resistivity and static permeability on a wide range of materials used in noise control.



σ - static airflow resistivity (Ns/m⁴ or rayls/m)

It expresses the frictional retardation to a quasi-static airflow through the pores, i.e. the pressure drop required to force a unit flow through the porous or fibrous medium.

k – static permeability (m² or Darcy)

It is an effective fluid flow surface. It is related to the static airflow resistivity; however, it only depends on the pores geometry

Measurements are based on ASTM C 522 standard.

The system has been a proven value to the world's leading materials suppliers to both the automotive and aircraft industry. It is used for:

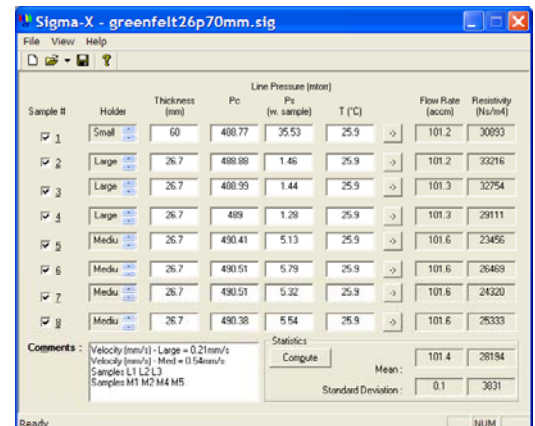
- quality control in the manufacturing process of materials
- research, development, and innovation
- feeding acoustical prediction software

The system includes one specimen holder (different sizes are available), a film holder, a stainless steel calibrated sample, and the Sigma-X™ software.

The Sigma-X™ software assists the experimenter during the measurement and calculate the statistics on the airflow and static airflow resistivity..

The system works with disc shaped samples as those used for Mecanum's or B&K impedance tubes, porosity meter and quasi-static mechanical analyzer.

Optional calibrated samples and holders are available.

Sample #	Holder	Thickness (mm)	P0	P1 (w. sample)	T (°C)	Flow Rate (accm)	Resistivity (Ns/m ⁴)
1	Small	60	488.77	35.53	25.9	101.2	30893
2	Large	26.7	488.98	1.46	25.9	101.2	33216
3	Large	26.7	488.99	1.44	25.9	101.3	32754
4	Large	26.7	489	1.28	25.9	101.3	29111
5	Medu	26.7	490.41	5.13	25.9	101.6	23456
6	Medu	26.7	490.51	5.79	25.9	101.6	26489
7	Medu	26.7	490.51	5.22	25.9	101.6	24320
8	Medu	26.7	490.38	5.54	25.9	101.6	25333

Comments : Velocity (mm/s) - Large = 0.21mm/s
 Velocity (mm/s) - Med = 0.54mm/s
 Samples L1 L2 L3
 Samples M1 M2 M4 M5

Statistics
 Compute Mean: 101.4 26194
 Standard Deviation: 0.1 3031