Airflow Resistance Measurement System
Nor1517

Applications
Typical applications are:

• quality control in production process
• testing in research & development

With the use of the height-adjustable clamping device and adapters to fit, various sized test material can be applied.

Features

• Fast and accurate measurement and readout of measurement results
• Accepts test material of various form & size
• Easy setup & use
• Large dynamic range of measurement
• Measures at 2 Hz
Intro
The quantity airflow resistance is one of the most important parameters for the description of porous materials. A low value indicates little resistance for air streaming through the material and a high value indicates that the material is closer to air-tight.

The Nor1517 system measures the airflow resistance in porous materials according to ISO9053/DIN EN 29053 (DIN52213).

The Nor1517 system functions after the dynamic principle. An AC motor driven piston produces a linear movement causing an alternating air-flow of frequency 2Hz into a cylindrical tank and through the test material. The pressure difference between the inside & outside of the cylinder are measured by a condenser microphone Nor1226 (12mV/Pa) connected to a sound analyser using the 2Hz 1/3 octave band on the sound level meter Nor140. The flow resistivity is then calculated from the dB readings on the meter. The measurement results are also stored in the instrument memory for further use/documentation. The specific airflow-resistance measurement results are directly readable on the 140 display (Pa s/m)

Measurement
The sound level meter Nor140 is used for measuring the two hertz sound pressure level in the test vessel. Calibration is performed first with the use of a calibration disc. Then, the sample is mounted, and by offsetting the normal calibration and switching the display to show linear units, the measurement is done. The instrument may display the numeric value of the specific airflow resistance directly from the 2 Hz band. The unit is Pa s/m.

In order to be able to measure the level during calibration for a peak-to-peak stroke of 28 mm which is about 148 dB we recommend to use the microphone Nor1226 with a nominal sensitivity of 12,5 mV/Pa. The instrument has to be equipped with the program extensions Option 1: octave filter and 18: extended measurement range. We also recommend installing option 3: 1/3-octave filters, as this will give higher attenuation of extraneous noise.

Specifications
Standards: ISO9053/DIN EN 29053 (replaces DIN52213)
Measurement range: 10 Pa s/m. to 10000Pa s/m.
Airflow resistance: 0,5 cm/s and 0,05 cm/s
The piston can be set for 2 different stroke lengths: 14 mm and 1,4 mm
Max. diameter of test pieces: 100 mm
Overall dimensions: 700 * 350 * 640mm (w*d*h)
Weight: 22 Kg
Power: mains connection: 230 V(AC) 50 Hz
CE Conformity

Accessories
Distance piece WPE35 for use of soft test material up to height 35 mm (eg. gaskets for vacuum cleaners, PC fans)

Distance piece WPE150 for use of soft test material up to height 150 mm (eg. wall insulations material (Glava, Rockwool etc.)