



TECHNICAL NOTE

Measuring with the Nor1517A

The Nor140 sound level meter is used in our Nor1517A system for measuring the airflow resistance in porous materials. Previously the calculation of this parameter has been done internally on the Nor140 by calibrating and display the results directly Linear Units.

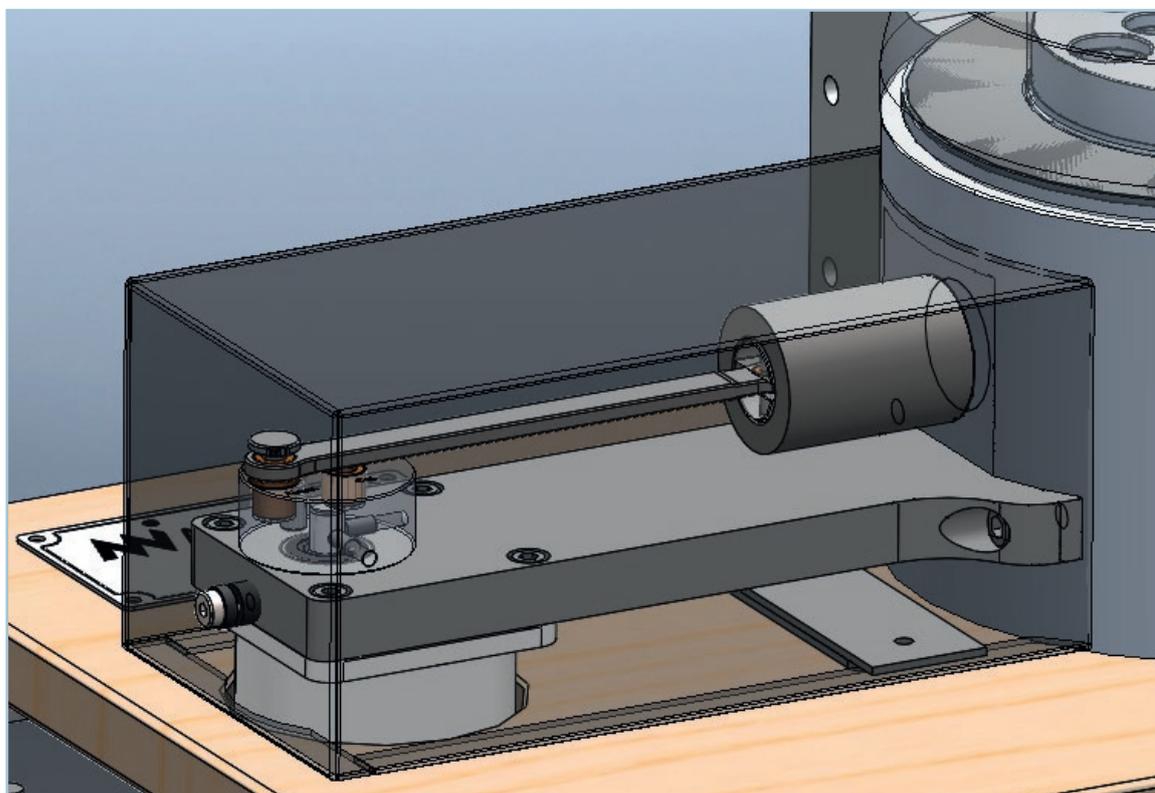
In addition, we have also now introduced the possibility to measure with the Nor140 calibrated in dB as normal and then do the calculations in an Excel sheet afterwards. Excel sheet is available for downloading on www.norsonic.com/downloads, "Calculation of airflow resistance for Nor1517A system".

Using this method, the measurement procedure is greatly simplified in that you do no longer need to change the position on the link arm. This can be set and left in position «Measure» and a box can therefore be used around this part and aid in sealing it against dust intrusion.

This box/assembly can be retrofitted to existing units and purchased as a service item. Requires some modification to the unit. Contact Norsonic for details.

Measurements can be read out using NorXfer (alternatively read manually from the meter) and values then entered in the spreadsheet template.

The process in itself is very simple and requires only to enter the sound pressures as read on the meter in addition to the atmospheric pressure as shown below.



Nor 1517A			
Workbook for calculation of specific airflow resistance from reading the sound pressure level in dB			
Apply the same stroke for calibration and measurement of sample			
Insert values in yellow cells			
P_s	101.325	kPa	Static atmospheric pressure in kilopascal
L_t	146.7	dB	Sound pressure level in dB with Calibration disk mounted
L_b	69.0	dB	Sound pressure level in dB with open vessel (motor running)
L_s	96.0	dB	Sound pressure level in dB with test sample mounted
R_s	307.17	Pa-s/m	Specific Airflow resistance
Range:	OK		Warning for above measurement range
Background noise	OK		Warning for high background level

It is possible to run the measurement via NorVirtual ie. from a PC/laptop should this be more comfortable from a user perspective.

At an extra cost it is also possible to use a «dustproof» microphone grid (from GRAS). Contact us for details.

We have also introduced dust mesh covers over all 3 openings in the test vessel, ie. in front of the microphone and the piston as well as over the valve. These can be retrofitted on existing units and purchased as a service item. Ask Norsonic for details.

