

DIN EN ISO 7235:2010-01 (E)

Acoustics - Laboratory measurement procedures for ducted silencers and air-terminal units - Insertion loss, flow noise and total pressure loss (ISO 7235:2003)

Contents		Page
Foreword		3
Introduction		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	6
4	Symbols	11
5	Test facilities and requirements for instrumentation	13
5.1	Purpose and types of test facilities	13
5.2	Equipment for acoustic testing of silencers	13
5.3	Equipment for acoustic testing of air-terminal units	19
5.4	Equipment for flow testing	20
5.5	Equipment for dynamic testing	25
6	Test procedures	26
6.1	General	26
6.2	Insertion loss	26
6.3	Transmission loss	28
6.4	Sound power level of the flow noise (or regenerated sound)	28
6.5	Volume flow rate and pressure loss coefficient	29
7	Information to be recorded	33
7.1	Description of the test object	33
7.2	Instrumentation	33
7.3	Sound-source equipment	34
7.4	Test, substitution and transmission ducts	34
7.5	Transitions	34
7.6	Anechoic termination	34
7.7	Reverberation room	34
7.8	Acoustical test results	34
7.9	Measurement uncertainty	35
8	Information to be reported	35
Annex A (normative) Design of the sound field excitation equipment and qualification tests		36
Annex B (normative) Transmission element		38
Annex C (normative) Duct walls and limiting insertion loss		41
Annex D (normative) Conversion of one-third-octave-band attenuation values to octave-band attenuation values		44
Annex E (normative) Measurements on large parallel-baffle silencers		45
Annex F (normative) Test of longitudinal attenuation		47

Annex G (informative) Anechoic terminations	48
Annex H (informative) Examples of measurement arrangements	50
Bibliography	52
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC	54
Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	55