

DIN EN 15036-1:2006-12 (E)

Heating boilers - Test regulations for airborne noise emissions from heat generators - Part 1: Airborne noise emissions from heat generators

Contents		Page
Foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Determining sound power levels	7
4.1	General data	7
4.2	Test method	8
4.2.1	Measurement approach	8
4.2.2	Uncertainty of test	8
4.2.3	Selection of test methods	9
4.2.4	Operation	11
5	Set up and operation of the appliances	11
5.1	General	11
5.2	Equipment and preliminary treatment	11
5.3	Climatic conditions	11
5.4	Operation of the appliance	11
6	Test report	12
6.1	General	12
6.2	Information and readings in the test report	12
6.2.1	General information in the report	12
6.2.2	Information on measured data	13
Annex A (normative) Free field method		14
A.1	General	14
A.2	Principle	14
A.3	Test equipment	17
A.4	Location and number of measurement points	17
A.5	Determination of sound power level according to EN ISO 3744 and EN ISO 3746	20
A.5.1	Test procedure	20
A.5.2	Calculation of sound pressure level averaged over the measurement surface	21
A.5.3	Calculation of A-weighted sound pressure levels from frequency band data	21
A.5.4	Correction for background noise	23
A.5.5	Correction for the test environment	23
A.5.6	Calculation of the surface sound pressure level	25
A.5.7	Calculation of the sound power level	25
Annex B (normative) Reverberant room method		26
B.1	General	26
B.2	Principle	26
B.3	Test equipment	26
B.4	Environment	26

B.5	Sound pressure measurements	26
B.6	Calculation of sound pressure level average	27
B.7	Background noise correction	27
B.8	Calculation of the average sound power spectrum	28
B.8.1	Comparative method	28
B.8.2	Direct method	28
B.9	Determination of A-weighted sound power level	29
Annex C (normative) Sound intensity method		30
C.1	General	30
C.2	Principle	30
C.3	Test equipment	30
C.4	Measuring points and procedure	31
C.4.1	General	31
C.4.2	Test according to EN ISO 9614-1 (discrete points)	31
C.4.3	Test according to EN ISO 9614-2 (scanning)	32
C.5	Calculation of sound power levels	33
Annex D (informative) Examples for free field method category 3		34
Annex E (informative) Microphone positions		38