DIN EN 12102:2013-10 (E)

Air conditioners, liquid chilling packages, heat pumps and dehumidifiers with electrically driven compressors for space heating and cooling - Measurement of airborne noise - Determination of the sound power level

Contents

Page

Foreword 4

1 Scope 5

2 Normative references 6

3 Terms, definitions and symbols 7
3.1 General 7
3.2 Symbols 7
3.2.1 Non ducted units 7
3.2.2 Ducted units 7
3.3 Standard operating conditions 8

4 Measuring instruments 8

5 Operation of the unit 9

6 Installation 11
6.1 General points 11
6.2 Ducted units 11
6.2.1 Installation 11
6.2.2 Duct end correction 11
6.2.3 Bend correction 12
6.2.4 Pressure and airflow measurements 13
6.2.5 Casing radiated test 14
6.3 Wall mounted 14
6.4 Ceiling mounted 14
6.5 Window-type 14
6.6 Multisplits 14
6.7 Single ducts 14
6.7.1 Noise radiated by the casing 14
6.7.2 Ducted outlet 15

7 Acoustic measurement methods 15
7.1 Frequency range 15
7.2 To choose a method 15
7.2.1 General 15
7.2.2 Available test facilities 15
7.2.3 Target of measurement 16
7.3 Reverberation room methods 16
7.3.1 General 16
7.3.2 Non ducted units 16
7.3.3 Ducted units 17
7.4 Installation of the free field over a reflecting plane method 18
7.4.1 General 18
7.4.2 Reference surface 18
7.4.3 Measuring surface 18

8 Uncertainty of measurement results 20

9 Test report 20
9.1 General 20
9.2 Unit specification 20
9.3 Operating conditions, installation and environmental conditions 21
9.4 Measurement instruments 21
9.5 Measured values and results 21

Annex A (normative) Specific measurement for variable speed units 23

A.1 General requirements 23
A.2 Test mode 23
A.3 Measurements process 23

Annex ZA (informative) Relationship between this European Standard and the requirements of Commission Regulation (EC) No 206/2012 24

Bibliography 25