
**Sound power rating of air-conditioning and
air-source heat pump equipment —**

Part 2:
Non-ducted indoor equipment

*Détermination du niveau de puissance acoustique des climatiseurs et
pompes à chaleur sur l'air —*

Partie 2: Appareils intérieurs non raccordés



Contents

	Page
1 Scope	1
2 Normative references	1
3 Definitions.....	2
4 Requirements for conducting sound tests.....	4
4.1 Testing requirements for equipment.....	4
4.2 Data to be taken.....	4
4.3 Special testing considerations for the optional 63 Hz octave band	5
4.4 Use of windscreen.....	5
4.5 Equipment mounting	5
5 Sound rating procedures	6
5.1 General	6
5.2 Determination of equipment sound power levels.....	6
5.3 Determination of the octave band sound power level rating, L_W	7
5.4 Determination of the A-weighted overall sound power level rating, L_{WA}	7
5.5 Standard rating conditions.....	8
6 Published ratings	9
6.1 General	9
6.2 Standard ratings.....	9
6.3 Application ratings.....	9
Annex A: Special rating procedure using ISO 9614.....	10
Annex B: Determination of the single-number, tone-adjusted A-weighted overall sound power level sound quality indicator (L_{WAT})	11

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 13261-2 was prepared by Technical Committee ISO/TC 86, *Refrigeration*, Subcommittee SC 6, *Factory-made air-conditioning and heat pump units*.

Annex A forms an integral part of this part of ISO 13261. Annex B is for information only.

Sound power rating of air-conditioning and air-source heat pump equipment —

Part 2: Non-ducted indoor equipment

1 Scope

This part of ISO 13261 specifies methods for the determination of sound power ratings of air-conditioning and air-source heat pump equipment to be used indoors.

It is applicable to the sound power rating of the indoor sections of non-ducted, factory-made, residential, commercial and industrial air-conditioning and air-source heat pump equipment, which are electrically driven with mechanical compression including free-delivery heat pumps, packaged-terminal air-conditioners and water-source heat pumps. This part of ISO 13261 includes both an octave-band sound power level rating and a single-number A-weighted overall sound power level rating.

This part of ISO 13261 does not apply to ducted indoor equipment, or to chillers, room fan coil units, products with variable speed compressors, or industrial process equipment.

NOTE — The terms "air-conditioner" and "equipment" are used to mean "air-conditioners and air-source heat pumps" in this part of ISO 13261.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 13261. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 13261 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3742:1988, *Acoustics — Determination of sound power levels of noise sources — Precision methods for discrete-frequency and narrow-band sources in reverberation rooms.*

ISO 3743-1:1994, *Acoustics — Determination of sound power levels of noise sources — Engineering methods for small, movable sources in reverberant fields.— Part 1: Comparison method for hard-walled test rooms.*

ISO 3743-2:1994, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering methods for small, movable sources in reverberant fields — Part 2: Methods for special reverberation test rooms.*

ISO 3744:1994, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane.*

ISO 3745:1977, *Acoustics — Determination of sound power levels of noise sources — Precision methods for anechoic and semi-anechoic rooms.*

ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment.*

ISO 5151:1994, *Non-ducted air-conditioners and heat pumps — Testing and rating for performance.*

ISO 9614-1:1993, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discrete points.*

ISO 9614-2:1996, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning.*

ISO 12001:1996, *Acoustics — Noise emitted by machinery and equipment — Rules for the drafting and presentation of a noise test code.*

3 Definitions

For the purposes of this part of ISO 13261, the following definitions apply.

3.1

air-conditioner

one or more factory-made assemblies which normally include an evaporator or cooling coil, a compressor and condenser combination, and may also include a heating function; where such equipment is provided in more than one assembly, the separated assemblies shall be designed to be used together

NOTE — The requirements for sound ratings specified in this part of ISO 13261 are based on the use of matched assemblies.

3.2

air-source heat pump

one or more factory-made assemblies which normally include an indoor conditioning coil, a compressor and outdoor coil (including means to provide a heating function), and may optionally include a cooling function; when such equipment is provided in more than one assembly, the separated assemblies shall be designed to be used together

NOTE — The requirements for sound ratings specified in this part of ISO 13261 are based on the use of matched assemblies.

3.3

non-ducted indoor air-conditioning equipment

air-conditioning and heat pump equipment with free delivery of air from, and returned to, the indoor portion of such equipment.

3.4

room fan-coil unit

factory-made assembly which would usually include a water-to-air coil together with an electrically-driven air handling fan(s) enclosed in a casing or mounted on a chassis for built-in or framed-in application to form a complete unit intended to be connected as part of a chilled water cooling system

NOTE — The unit may include a heating function as well.

3.5

cassette unit

split system air-conditioner or heat pump in which the indoor air-handling section has two or more integral diffusers and a recirculation grille and is normally designed to be hung in a ceiling with a minimum projection into the room.

3.6

sound power level, L_W

ten times the logarithm to the base 10 of the ratio of the sound power radiated by the sound source under test to a reference sound power, expressed in decibels (dB)

NOTE — The reference sound power used in this part of ISO 13261 is 1 pW (picowatt).