



FINAL DRAFT

International Standard

ISO/FDIS 13347-2

Fans — Determination of fan sound power levels under standardized laboratory conditions —

Part 2: Reverberant room method

*Ventilateurs — Détermination des niveaux de puissance
acoustique des ventilateurs dans des conditions de laboratoire
normalisées —*

Partie 2: Méthode de la salle réverbérante

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 117, *Fans*.

This second edition cancels and replaces the first edition (ISO 13347-2:2004), which has been technically revised. It also incorporates the Technical Corrigendum ISO 13347-2:2004/Cor 1:2006.

The main changes are as follows:

- inclusion of acoustic methods for installation category E fans;
- symbols harmonized with ISO 5801 and those listed in normative references;
- editorial corrections.

A list of all parts in the ISO 13347 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document deals with the determination of the fan sound power level appropriate to a particular application. In describing the test and rating procedures, numerous references are made to ISO 5801 as well as to other relevant ISO standards. This reverberant room method should be read in conjunction with ISO 13447-1 and each part of the ISO 13347 series which details other methods for determining the sound power radiated by a fan in specified installation conditions as a function of frequency.

The method in this document employs standard sound measurement instrumentation. The test set-ups are generally designed to represent the physical orientation of a fan as installed, in accordance with ISO 5801 or ISO 13350.

This document primarily deals with the determination of sound power levels of fans used for ducted applications.

The test procedures described in this document relate to laboratory conditions. The measurement of performance under site conditions is not included. Acoustic system effects can be considerable where the airflow into and out of the fan is not free from swirl, nor the velocity profile there fully developed.

This document describes methods for determining sound power levels of fans in one-third octave bandwidths and one octave bandwidths.

Data obtained in accordance with this document may be used for the following purposes amongst others:

- a) comparison of fans which are similar in size and type;
- b) comparison of fans which are different in size and type;
- c) determining whether a fan complies with a specified upper limit of sound emission;
- d) scaling of fan noise from one size and speed to another size and speed;
- e) prediction of sound pressure level in an installation of which the fan forms a part;
- f) engineering work to assist in developing quiet machinery and equipment.

NOTE The Bibliography provides additional references [1] to [19] for those wishing to explore this subject in greater detail.