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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 34877.1-2023

**Industrial fans - Determination of fan sound power levels under
standardized laboratory conditions - Part 1: General overview
(English Translation)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is Part 1 of GB/T 34877 "Determination of sound power level of fans under standard laboratory conditions for industrial fans": GB/T34877 has released the following parts:

- Part 1: General requirements;
- Part 2: Reverberation chamber method;
- Part 3: Envelope surface method;
- Part 4: Sound intensity method:

This document is equivalent to ISO 13347-1:2004 "Industrial Fan Standard Determination of Fan Sound Power Level under Laboratory Conditions - Part 1:

common enquiries":

This document has made the following minimal editorial changes:

---Incorporates the technical corrigendum content of ISO 13347-1:2004/Cor:1:2006, and the outer margin position of the involved clauses Indicated with vertical double lines (||);

---Incorporated the contents of the ISO 13347-1:2004/Adm:1:2010 amendment, the outer margins of the involved clauses are marked with vertical Straight double lines (||) are marked;

---Changed the list of normative reference documents in Chapter 2;

---Corrected the numbering error of the referenced documents in the introduction of Chapter 3 (corrected from ISO 3470 to ISO 3740);

---Corrected the error in the chapter number in GB/T 17697-2014 cited in Chapter 4 (corrected from 6:5 to 6:2);

---Corrected the chapter number error in ISO 13350:2015 cited in Chapter 4 (corrected from Chapter 9 to Chapter 8);

---Note added in Chapter 4;

---Corrected the chapter number error in ISO 13350:2015 cited in 7:2 (corrected from Chapter 9 to Chapter 8);

---Note added in 7:2;

---Note added in 11:3;

---Deleted "E:3 of ISO 13347-1:2004" and related issues related to testing and determining ratings in the 63Hz frequency band (E:10)", because there is no such content in ISO 13347-1:2004, it is an editorial error;

---Deleted "Procedures according to 6:2:1" in the explanation of L_{pj} in E:4:3 of ISO 13347-1:2004, because ISO 13347-1:

There is no 6:2:1 in:2004 and ISO 13347-2:2004, which is an editorial error:

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

The sound power level of a ventilator is an important acoustic index to measure the performance of a ventilator: This document is used to measure the acoustic performance of industrial ventilators and can also be used to measure the acoustic performance of industrial ventilators:

It is used to determine the acoustic performance of fans with attached devices and is an important testing method for measuring the sound power of fans under standard laboratory conditions: although Although there are many domestic standards for measuring fan noise,

they lack universality and cannot be compared in the same direction: This document is adopted under the same the measurement method under standard conditions enables my country's wind turbine companies to participate in international competition in the final acceptance of product quality:

GB/T 34877 aims to establish the important tests for the determination of the acoustic performance of industrial ventilators and the determination of sound power under standard laboratory conditions:

The method is intended to consist of four parts:

---Part 1: General requirements: The aim is to determine the acoustic performance of ventilators and when combined with auxiliary equipment:

---Part 2: Reverberation chamber method: The purpose is to establish a method for measuring the sound power level of ventilators using a reverberation chamber, which is only applicable to standard it is used under standardized laboratory conditions: Since field testing increases uncertainty, it is not suitable for field testing:

---Part 3: Envelope surface method: The purpose is to establish a method for measuring the sound power level of ventilators using the envelope surface method, and to clarify the Laboratory conditions necessary for a successful test, but few sites can meet these conditions, so they are not suitable for on-site measurements:

---Part 4: Sound intensity method: The purpose is to establish a method for determining the sound power level of ventilators using the sound intensity method, which is only suitable for testing in specified settings:

Airborne sound radiation was determined, vibration was not measured, and the sensitivity of airborne sound radiation to vibration effects was not determined: The ventilation of the test was implemented:

Machine size is limited only by test installation practices:

This document will help my country's ventilator industry and related fields better understand and implement the relevant technical requirements in the standards, and improve the ventilator industry the overall acoustic technology level of the industry:

Industrial fans for standard laboratory conditions Determination of sound power level Part 1: General requirements

1 Scope

This document specifies the determination of the acoustic performance of industrial ventilators:

This document is applicable to the determination of the acoustic performance of ventilators