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

GB/T 34877.4-2024

**Industrial fans - Determination of fan sound power levels under
standardized laboratory conditions - Part 4: Sound intensity
method**

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting:

This document is part 4 of GB/T 34877 "Determination of sound power level of fans under standard laboratory conditions for industrial fans":

GB/T 34877 has published the following 4 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 13347-4:2004 "Industrial fans - Determination of sound power levels of fans under standard laboratory conditions - Part 4 Points: Sound Intensity Method:

A new chapter "Terms and Definitions" has been added to this document:

The following minimal editorial changes were made to this document:

--- Incorporated the technical corrigendum of ISO 13347-4:2004/Cor1:2006, the outer margin position of the clauses involved it is marked with a vertical double line (||):

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:

It is used to determine the acoustic performance of fans with attached devices and is an important test method for measuring the sound power of fans under standard laboratory conditions:

Although there are many standards for measuring fan noise in China, they lack universality and cannot be compared in the same direction:

ISO 13347-4:2004 document enables my country's ventilator companies to conduct final product quality inspection under the same measurement method standard conditions:

Able to participate in international competition:

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

The method is planned to consist of four parts:

--- Part 1: General requirements: The purpose is to determine the acoustic performance of fans and when combined with auxiliary devices:

--- Part 2: Reverberation chamber method: The purpose is to establish a method for measuring the sound power level of fans using a reverberation chamber: It is only applicable to the standard it is used under standardized laboratory conditions and is not suitable for field testing due to the increased uncertainty of field testing:

--- Part 3: Envelope method: The purpose is to establish a method for determining the sound power level of fans using the envelope method, and to clarify the the laboratory conditions necessary for a successful experiment are few and far between, but few sites can meet these conditions, so it is not suitable for field measurements:

--- Part 4: Sound intensity method: The purpose is to establish a method for determining the sound power level of a fan using the sound intensity method, which is only applicable to the specified equipment the airborne sound radiation was measured by the test equipment, and no vibration was measured, nor was the sensitivity of the airborne sound radiation to the vibration effect determined:

The size of the ventilator is limited only by practical aspects of the test installation:

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

Industrial fans Fans under standard laboratory conditions Determination of sound power level - Part 4: Sound intensity method

1 Scope

This document specifies industrial ventilators as defined in ISO 5801 and ISO 13349 (all parts): This document applies only to specified equipment:

Determination of airborne sound radiation by a device excluding the measurement of vibration and the determination of the sensitivity of airborne sound radiation to the effects of vibration:

This document is applicable to testing the size of ventilators and is not applicable to testing the actual installation conditions:

This document establishes the sound power determined by measuring the sound intensity at the surface surrounding the sound source and provides a basis for the acoustic environment, ambient noise, measurement surface the test setup is designed to be installed in accordance with ISO 5801 and ISO 5801:

13347-2:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document:

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document:

ISO 5136 Acoustics-Determination of the sound power radiated into ducts by fans and other ventilation equipment-Duct method Note: GB/T 17697-2014 Acoustics Determination of sound power radiated into ducts by fans and other ventilation equipment Duct method (ISO 5136:2003, IDT) ways) Note: GB/T 1236-2017 Standardized air duct performance test