



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

GB/T 17248.1-2022

**Acoustics - Noise emitted by machinery and equipment - Guidelines for
the use of basic standards for the determination of emission sound
pressure levels at a work station and at other specified positions**

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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 of Standardization Documents"

drafted.

This document is part 1 of GB/T 17248 "Noise emitted by acoustic machines and equipment". GB/T 17248 has been released to

Lower part.

--- Part 1. Guidelines for the use of basic standards for determining emission sound pressure levels at working positions and other designated positions;

--- Part 2. Approximate free-field determination of working positions and other specified positions with negligible environmental correction above a reflective surface

emission sound pressure level;

--- Part 3. Using approximate environmental corrections to determine the emission sound pressure level at the working position and other specified positions;

--- Part 4. Determine the emission sound pressure level at the working position and other designated positions by the sound power level;

--- Part 5. Determination of emission sound pressure levels at working positions and other designated positions using accurate environmental corrections;

--- Part 6. Sound Intensity Method Engineering method for on-site determination of emission sound pressure levels at work locations and other designated locations.

This document replaces GB/T 17248.1-2000 "Determination of noise emitted by acoustic machines and equipment at work locations and other designated locations"

Guidelines for the Use of Basic Standards for Emission Sound Pressure Levels, compared with GB/T 17248.1-2000, except for structural adjustments and editorial changes, the main technical

The changes are as follows.

- Added terms and definitions (see Chapter 3);
- Changed the principles and procedures for selecting different measurement methods of emission sound pressure level (see Chapter 6, Chapter 4 of the 2000 edition);
- Added the sample analysis content of Appendix B (see Appendix B).

This document is equivalent to ISO 11200:2014 "Determination of noise emitted by acoustic machines and equipment at work locations and other specified locations

Guidelines for the Use of Basic Standards for Emission Sound Pressure Levels.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

For many users of machines and equipment, noise control is a requirement for the coordination of acoustic information between manufacturers, installers and users.

main issues of effective communication. The relevant acoustic information is obtained from measurements. This information is mainly communicated by the manufacturer to the user.

These measurements are only useful under specified measurement conditions, when specified acoustic quantities are obtained, and when standardized instruments are used.

The two complementary quantities of sound power level and emission sound pressure level at a given location can be used to describe the acoustic emission of a machine or equipment. Describe the sound power level

Standards for basic determination methods are ISO 3740[2], ISO 3741, ISO 3743 (all parts), ISO 3744, ISO 3745, ISO 3746 and

ISO 3747 (determined by sound pressure level measurement) and ISO 9614-1, ISO 9614-2 and ISO 9614-3 (determined by sound intensity measurement). Book

The document describes the consideration of the sound source under test in various possible situations (mobile machines, stationary machines, different test rooms, different instruments and

A set of five series of standards describing different methods of determining the sound pressure level emitted by machinery and equipment under different working positions, etc.

It is not the purpose of this series of standards to describe methods for measuring occupational noise exposure of workers; for methods of measuring occupational noise exposure, see

ISO 9612[4].

The emission sound pressure level is used together with the sound power level for the designation of emission noise under specified conditions, verification of the designated value, different types and sizes

Comparison of the emission noise of the mechanical equipment, comparison with the limit value specified in the procurement contract or regulations, and engineering to reduce the emission noise of the mechanical equipment

work and prediction of noise exposure at a given location.

Three of the standards in this series describe the method of directly measuring the emission sound pressure level in different test environments (GB/T 17248.2,

GB/T 17248.3 and GB/T 17248.5), GB/T 17248.4 gives the method of measuring emission sound pressure level by sound power level,

GB/T 17248.6 is a method for determining the emission sound pressure level based on the measured value of the sound intensity level.

Usually these emission sound pressure levels are different from the sound pressure levels generated when the mechanical equipment is operating in its installation environment. At this time, the working position or its

The sound pressure level at his specified location is affected by the environment. For practical reasons, the choice of the sound power level measurement criterion may differ from the emission sound pressure level

The choice of measurement criteria is causal. It is best to choose criteria related to both noise emissions at the same time.

In fact, GB/T 17248.2, GB/T 17248.3, GB/T 17248.4, GB/T 17248.5 and GB/T 17248.6 series of standards

Usually used as the basis for standard noise test specifications (see 3.25). If the machine family under test has a specific noise test specification, use the

specified test specifications. Familiarity with ISO 12001 [6] is required for drafting noise testing specification recommendations.

Since there are many noise-related contents emitted by machines and equipment, GB/T 17248 "Noise emitted by acoustic machines and equipment" is based on different

The same aspect is to be divided into 6 parts (corresponding to the series of standards ISO 11200~ISO 11205 respectively), as follows.

--- Part 1.Guidelines for the use of basic standards for measuring sound pressure levels emitted at working positions and other designated positions. The purpose is to give this

Basic definitions related to a series of standards, comparison of various measurement

methods, and guidance on how to choose a measurement method.

--- Part 2. Approximate free-field determination of working positions and other specified positions with negligible environmental correction above a reflective surface

emission sound pressure level. The purpose is to give measurements over a reflective surface in an approximate free-field environment with negligible environmental corrections method.

--- Part 3. Using approximate environmental corrections to determine the emission sound pressure level at the working position and other specified positions. The purpose is to give A measurement method corrected for the approximate environment.

--- Part 4. Determine the emission sound pressure level at the working position and other specified positions by the sound power level. The purpose is to give a sound-based rate measurement method.

--- Part 5. Using accurate environmental corrections to determine the emission sound pressure level at the working position and other specified positions. The purpose is to give A measurement method corrected for the exact environment.

--- Part 6. Sound Intensity Method Engineering method for on-site determination of sound pressure levels emitted at working positions and other designated positions. The purpose is to give

Field measurement method using sound intensity method.

Noise emitted by acoustic machines and equipment

Determination of work locations and other designated locations

Guidelines for the use of basic standards for emission sound pressure levels

1 Scope

This document describes ISO 11201, ISO 11202, ISO 11203, ISO 11201, ISO 11202, ISO 11203,

A framework for foundational standards such as ISO 11204 and ISO 11205 to guide the following.

--- Help write noise test specifications;

--- Provide a physical explanation for the amount of noise emission compared with other noise amounts (see 4.1~4.3);

--- Compare the different measurement methods given in the ISO 11201~ISO 11205 group