

ICS 27.200
CCS J 73



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

GB/T 9068-2025

Replacing GB/T 9068-1988

**Determination of sound power levels of refrigeration and
air-conditioning equipment - Sound pressure methods**

制冷与空调设备噪声声功率级的测定 声压法

Issued on: October 31, 2025

Implemented on: May 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
8.Calculation of sound pressure level and sound power level	15
24 References	26

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 supersedes GB/T 9068-1988 "Engineering Method for Determination of Noise Power Level of Heating, Ventilation and Air Conditioning Equipment", and is consistent with... Compared with GB/T 9068-1988, apart from structural adjustments and editorial changes, the main technical changes are as follows:

a) Acoustic requirements for the testing environment and pass/fail criteria have been added (see 4.3);

b) Background noise requirements have been added (see 4.2);

c) The original table data has been deleted (see Table 2 in the 1988 edition);

d) Increased the maximum sound pressure level at each center frequency of the 1/3 octave band (see Table 1);

e) The installation and operation requirements for the equipment have been changed (see Chapter 6, Chapter 6 of the 1988 edition);

f) The layout and requirements for measuring points of equipment of different sizes have been added (see 7.1.2);

g) A method for calculating A-weighted sound power level from frequency band sound level has been added (see Appendix C). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Refrigeration and Air Conditioning Equipment (SAC/TC238). This document was drafted by: Hefei General Machinery & Electrical Products Testing Institute

Co., Ltd., Guangdong Midea HVAC Equipment Co., Ltd., and Qingdao Hisense Hitachi. Air Conditioning Systems Co., Ltd., AUX Air Conditioning Co., Ltd., Hisense Air Conditioning Co., Ltd., Guangdong Fenny Energy Technology Co., Ltd., Guojitong Yongji Machinery Technology Co., Ltd. and Hefei General Machinery Research Institute Co., Ltd. The main drafters of this document are. Guo Yang, Wu Yandong, Zhang Wenqiang, Du Wenchao, Bie Qingfeng, Liu Yang, Zan Shichao, Liu Chenxi, Zhang Ru, and Wang Haidi. Wang Yuxuan. This document was first published in 1988, and this is its first revision. Measurement of Noise Power Level of Refrigeration and Air Conditioning Equipment Sound pressure method

1 Scope

GB/T 9068-2025 is the Chinese national standard covering measuring the noise a chiller or an outdoor unit puts out - the microphone positions on the measurement surface, the corrections for the room and the background, the operating condition during the measurement, and the sound power derived from it. It replaces GB/T 9068-1988, a standard thirty-seven years old. In force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 9068-1988.

This document defines the terminology and definitions for measuring the sound power level of refrigeration and air conditioning equipment, specifies the testing environment and instrument requirements, and provides... Methods for the installation and operation of the tested equipment, the measurement of sound pressure level, and the calculation of sound pressure level and sound power level. This document applies to temperature, humidity, and flow conditions used to create comfortable human environments, specific artificial environments, technological processes, and specific heating and cooling requirements. The sound power level of refrigeration systems and heat pumps, devices, and components used for quantity, air quality control, and regulation is measured. Methods for measuring sound power level include reverse... Measurement of approximately free-field sound in a reverberant plane, measurement of anechoic chambers and semi-anechoic chambers, comparative method of hard-walled test chamber under reverberation field, and direct method of reverberation field measurement. The measurement method for anechoic chambers and semi-anechoic chambers (precision grade) is applicable to a frequency range of 100Hz to 10000Hz, which is 1/3 octave band.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 3241-2010 Electroacoustic octave and fractional octave filters

GB/T 3767 Engineering method for determining the sound power level and sound energy level of a noise source using acoustic pressure method in an approximately free field above a reflecting surface.

GB/T 3785.1-2023 Electroacoustic sound level meters - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 3767, GB/T 6881, GB/T 6881.2, GB/T 6882 and JB/T 7249, as well as the following terms and definitions, apply. In this document.

3.1 sound pressure The difference between the instantaneous air pressure and atmospheric pressure caused by the vibration of medium particles when sound waves propagate in the air.

Note. The unit of sound pressure is Pascal (Pa).

3.2 sound pressure level