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

GB/T 25078.2-2010

**Acoustics -- Recommended practice for the design of low-noise
machinery and equipment -- Part 2: Introduction to the physics
of low noise design**

声学 低噪声机器和设备设计实施建议 第2部分：低噪声设计的物理基础
(English Translation)

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Foreword

GB/T 25078 "low - noise machinery and equipment design and implementation of the recommendations" is divided into two parts.

--- Part 1. Planning;

--- Part 2. low-noise design of the physical basis.

This section GB/T 25078 Part 2. This part identical with ISO/T R11688-2.1998 "Acoustics Low noise machine Equipment design and implementation of the recommendations Part 2. low-noise design of the physical basis "(in English).

For ease of use, this part of ISO/T R11688-2.1998 made editorial changes and added references 2002 Ma Dayou published editor of the "Noise and Vibration Control Engineering Handbook" and the newer reference purposes.

Appendix A of this section and Appendix B is an informative annex.

This section proposed by the Chinese Academy of Sciences.

The acoustics in part by the National Standardization Technical Committee (SAC/TC17) centralized.

This section is drafted. Nanjing University Institute of Acoustics, Chinese Academy of Sciences Institute of Acoustics, Institute of Acoustics, Tongji University, the Beijing Municipal Labor Protection Science Research Institute, Hefei University of Technology.

Introduction

GB/T 25078-2010 "low - noise machinery and equipment design and implementation of the proposed" Target Part 1 of this series is now standard There are designing machines and new machine noise control, it gives the basic principles and methods of low-noise machinery and equipment designs. Headquarters Points for Part 1 gives principles of low-noise machinery and equipment design, methods, examples, and extensive application of professional literature Offer Management aspects of the basics.

Noise control in practice, non-acoustic professional engineer intervention is very important. Basics their noise generation and transfer characteristics Mastery and understanding of the principles of noise control measures for noise control effect is extremely important, as this section for more noise control Basics.

Through standardized way to support the design principles given in this section, therefore, we developed in the field of noise control series standard.

Low - noise machinery and equipment design and implementation of recommendations
Part 2. The physical basis of low-noise design

1 Scope

This part of GB/T 25078-2010 Part 2, and for the principles given in Part 1 of the low-noise machinery and equipment design the examples provided background knowledge of physics, for a wide range of application of professional literature to help.

Legislative, regulatory and oversight in this section use the object as machinery and equipment designers, user or purchaser and related fields department.

The formulas given in section helps to improve the general understanding of noise control, in many cases, it can be used to compare different design Program, but we can not give an absolute prediction of noise emission values.

About the internal sound source, pathway and machine radiation part is the basis of machine noise control. Therefore, Chapter 7, Section 8 and Annex Appendix A shows the measurement and calculation methods to obtain this information.

2 Normative references

The following documents contain provisions which, through reference GB/T 25078 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

Determination of sound power levels of noise sources reflecting plane free field engineering method GB/T 3767-1996 Acoustics sound pressure (EqvISO 3744.1994) GB/T 3768-1996 Determination of sound pressure of sound power levels of noise sources using an enveloping surface reflectance measuring surface Simple Method (EqvISO 3746.1995) GB/T 14574-2000 Acoustics Declaration and verification of noise emission values of machinery and equipment of (eqvISO 4871.1996) Determination of noise sources GB/T 16404-1996 sound intensity of sound power levels - Part 1. Measurement at discrete points (EqvISO 9614-1.1993) GB/Determination of sound power levels of noise sources - Part 2 T 16404.2-1999 sound intensity. Measurement by scanning (EqvISO 9614-2.1996) GB/T 16404.3-2006 sound intensity Determination of sound power levels of noise sources - Part 3. Precision scanning measurement method (ISO 9614-3:2002, IDT) Noise determination Job Location GB/T 17248.1-2000 Acoustics emitted by machinery and equipment and other specified positions emission sound pressure Basis of standard grade Guidelines for the use (eqvISO 11200.1995) GB/T 22156-2008 comparison acoustic machines and equipment noise emission data (ISO 11689:1996, IDT) GB/T 25078.1-2010 Acoustics low-noise machinery and equipment design and implementation of the recommendations - Part 1. Planning (ISO/TR 11688-1:1995, IDT) ISO 9611:1996 Acoustics machinery contact points on connecting solid sound of acoustic radiation characteristics of a sound source resiliently mounted Velocity measurements at

3 Terms and Definitions

The following terms and definitions apply to this part of the GB/T 25078.2 of.