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**AMERICAN NATIONAL STANDARD
Method for the Designation of Sound
Power Emitted by Machinery and Equipment**

**ACCREDITED STANDARDS COMMITTEE S12,
NOISE**

ABSTRACT

This Standard describes a method for expressing the noise emission of machinery and equipment in a convenient manner. This Standard applies to all machinery and equipment that is essentially stationary in nature and for which overall A-weighted sound power is a meaningful descriptor of noise emission. This Standard is intended to facilitate preparation of equipment specifications, labels, or other documentation that expresses in quantitative terms the noise emission of machinery or equipment.

AMERICAN NATIONAL STANDARDS ON ACOUSTICS

The Acoustical Society of America provides the Secretariat for Accredited Standards Committees S1 on Acoustics, S2 on Mechanical Shock and Vibration, S3 on Bioacoustics, and S12 on Noise. These committees have wide representation from the technical community (manufacturers, consumers, and general-interest representatives). The standards are published by the Acoustical Society of America through the American Institute of Physics as American National Standards after approval by their respective standards committees and the American National Standards Institute.

These standards are developed and published as a public service to provide standards useful to the public, industry, and consumers, and to Federal, State, and local governments.

This standard was approved by the American National Standards Institute as ANSI S12.23-1989 on 13 October 1989.

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standard. American National Standards are subject to periodic review and users are cautioned to obtain the latest editions.

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The American National Standards Institute, Inc. (ANSI) is the national coordinator of voluntary standards development and the clearinghouse in the U.S. for information on national and international standards.

The Acoustical Society of America (ASA) is an organization of scientists and engineers formed in 1929 to increase and diffuse the knowledge of acoustics and to promote its practical applications.



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FOREWORD

[This Foreword is for information only, and is not part of American National Standard Method for the Designation of Sound Power Emitted by Machinery and Equipment, ANSI S12.23-1989.]

This Standard revises and supersedes American National Standard ANSI S1.23-1976 (R 1983), American National Standard Method for the Designation of Sound Power Level of Machinery and Equipment, and American National Standard ANSI S3.17-1975 (R 1980), American National Standard Method for Rating the Sound Power Spectrum of Small Stationary Noise Sources. ANSI S1.23 standardized the term Noise Power Emission Level (NP EL) to designate the A-weighted sound level in bels. ANSI S3.17 used the sound power level of the source to calculate the average A-weighted sound pressure level at a distance of 1 meter. Since ANSI S1.23 is more widely used than ANSI S3.17, the present Standard is based primarily on S1.23. The procedures of S3.17, which have not been widely used for designation of the noise emission of sources, are included in an appendix.

International Standard ISO 4871 specifies the unit of the A-weighted sound power level as the decibel but also permits the reporting of the sound power level divided by ten (i.e., the sound power level in bels). In this Standard, the term Noise Power Emission Level (NP EL) is used, and the levels are reported in bels.

This practice is consistent with American National Standard Y10.11-1984, Letter Symbols and Abbreviations Used in Acoustics.

This Standard has been developed under the jurisdiction of Accredited Standards Committee S12 using the American National Standards Institute (ANSI) Standards Committee Procedures. The Acoustical Society of America holds the Secretariat for Accredited Standards Committee S12.

Accredited Standards Committee S12 has the following scope:

Standards, specifications, and terminology, in the fields of acoustical noise pertaining to methods of measurement, evaluation, and control, including biological safety, tolerance and comfort, and physical acoustics as related to environmental and occupational noise.

At the time this Standard was submitted to Standards Committee S12 for approval the membership was as follows:

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Working Group S12-25, Noise Labeling, which assisted Accredited Standards Committee S12, Noise, in the development of this standard, had the following membership:

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Suggestions for improvements in this standard will be welcomed. They should be sent to **Accredited Standards Committee S12 at the Standards Secretariat, in care of the Acoustical Society of America, 335 East 45th Street, New York, NY 10017-3483. Telephone (212) 661-9404.**

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