

INTERNATIONAL ISO
STANDARD 6926

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Second edition
1999-12-01

Acoustics — Requirements for the performance and calibration of reference sound sources used for the determination of sound power levels

Acoustique — Exigences relatives aux performances et à l'étalonnage des sources sonores de référence utilisées dans la détermination des niveaux de puissance sonore



Reference number
ISO 6926:1999(E)

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Printed in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 6926 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This second edition cancels and replaces the first edition (ISO 6926:1990), which has been technically revised.

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Introduction

Reference sound sources are used extensively in "comparison methods" for determining the noise emissions of physically stationary sound sources. A reference sound source, of known sound power output, is used to establish the numerical relationship between the sound power level of a source, in a given location in a given acoustical environment and the space- and time-averaged sound pressure level at a set of microphone positions. Once that relationship is established, it is straightforward to measure the average sound pressure level produced by an "unknown source" and to determine the sound power level produced by that source.

This International Standard defines the important physical and performance characteristics of reference sound sources and specifies procedures for their calibration, primarily to determine the sound power level of other sound sources.

This International Standard supplements a series of International Standards, the ISO 3740 series, that describes various methods for determining the sound power levels of machines and equipment. This series specifies the acoustical requirements for measurements that are appropriate for different test environments.

Five International Standards in the ISO 3740 series include procedures in which a reference sound source is used: ISO 3741, ISO 3743, ISO 3744, ISO 3746 and ISO 3747. ISO 3740 gives guidelines for the use of all the International Standards in the series.

It should be noted that the sound power output of reference sound sources will vary, in particular at low frequencies, with the distance from the source to nearby reflecting planes. Sound power data of reference sound sources are thus valid only for the position used during the calibration.

In addition to being useful for determining sound power levels by the comparison method, reference sound sources may be used for qualification tests on an acoustic environment and to estimate the influence of an acoustic environment on the sound pressure levels produced by one or more sound sources located in that environment. Examples of International Standards referring to reference sound sources with these applications are ISO 11690-3 and ISO 14257. Requirements other than those of this International Standard may be applicable in these cases.