

SVENSK STANDARD

SS-EN ISO 11201:2010

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Akustik – Buller från maskiner och utrustning – Mätning av emissionsljudtrycksnivå vid operatörsplats eller annan specifik plats i ett i huvudsak fritt fält över ett reflekterande plan och med försumbara omgivningskorrektioner (ISO 11201:2010)

Acoustics – Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)

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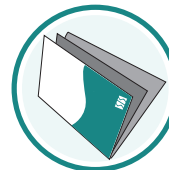
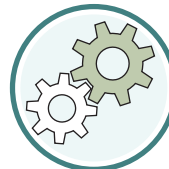
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Denna standard ersätter SS-EN ISO 11201:2009, utgåva 2.

The European Standard EN ISO 11201:2010 has the status of a Swedish Standard. This document contains the official English version of EN ISO 11201:2010.

This standard supersedes the Swedish Standard SS-EN ISO 11201:2009, edition 2.

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Standarden är framtagen av kommittén för Akustik och buller, SIS/TK 110

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EUROPEAN STANDARD

EN ISO 11201

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2010

ICS 17.140.20

Supersedes EN ISO 11201:2009

English Version

**Acoustics - Noise emitted by machinery and equipment -
Determination of emission sound pressure levels at a work
station and at other specified positions in an essentially free field
over a reflecting plane with negligible environmental corrections
(ISO 11201:2010)**

Acoustique - Bruit émis par les machines et équipements -
Détermination des niveaux de pression acoustique
d'émission au poste de travail et en d'autres positions
spécifiées dans des conditions approchant celles du champ
libre sur plan réfléchissant avec des corrections
d'environnement négligeables (ISO 11201:2010)

Akustik - Geräuschabstrahlung von Maschinen und
Geräten - Bestimmung von Emissions-Schalldruckpegeln
am Arbeitsplatz und an anderen festgelegten Orten in
einem im Wesentlichen freien Schallfeld über einer
reflektierenden Ebene mit vernachlässigbaren
Umgebungskorrekturen (ISO 11201:2010)

This European Standard was approved by CEN on 22 April 2010.

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Foreword

This document (EN ISO 11201:2010) has been prepared by Technical Committee ISO/TC 43 "Acoustics" in collaboration with Technical Committee CEN/TC 211 "Acoustics" the secretariat of which is held by DS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11201:2009.

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For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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Endorsement notice

The text of ISO 11201:2010 has been approved by CEN as a EN ISO 11201:2010 without any modification.

Introduction

This International Standard specifies a method for determining the emission sound pressure levels at a work station and at other well defined positions, in the vicinity of a machine or piece of equipment, in an essentially free field over a reflecting plane. It is one of a series (ISO 11200^[15] to ISO 11205^[19]) which specifies various methods for determining the emission sound pressure level at a work station and at other specified positions of a machine or equipment. ISO 11200^[15] gives guidance on the choice of the method to be used to determine the emission sound pressure levels of machinery and equipment.

The method specified in this International Standard differs from those in other International Standards in the ISO 11200^[15] to ISO 11205^[19] series in not applying any environmental correction. Requirements to be fulfilled by the environment are specified for accuracy grade 1 (precision) and grade 2 (engineering) measurements indoors and outdoors.

Precision measurements with accuracy grade 1 can generally be carried out in hemi-anechoic test rooms or outdoors provided that requirements on environmental conditions are met. With the specifications defined in the following it should be possible in some cases to provide such conditions in industrial ambience on larger plane areas outdoors free from reflecting objects.

ISO 11201:1995 provided results of accuracy grade 2 only. This edition of this International Standard provides a method of accuracy grade 2 that is essentially identical to that given in ISO 11201:1995. It also provides a more precise method of accuracy grade 1. Users and drafters of noise test codes referring to this International Standard should indicate clearly which method (accuracy grade 1 or accuracy grade 2) is used.

In general, the emission sound pressure levels are less than or equal to those that occur when the machinery or equipment is operating in its normal surroundings. This is because the sound pressure levels are determined by excluding the effects of background noise, as well as the effects of reflections other than those from the reflecting plane on which the machine under test is placed. For determination or calculation of the sound pressure level at the operator's position with the machine operating in a room, both sound power level and sound pressure level are required (as well as information on the room properties or reflections and noise from other sound sources or machines). A method of calculating the sound pressure levels in the vicinity of a machine operating alone in a workroom is given in ISO/TR 11690-3^[20]. Commonly observed differences are 1 dB to 5 dB, but in extreme cases the difference may be even greater.

Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections

1 Scope

1.1 General

This International Standard specifies a method for determining the emission sound pressure levels of machinery or equipment, at a work station and at other specified positions nearby, in an essentially free field over a reflecting plane. A work station is occupied by an operator and may be located in open space, in the room where the source under test operates, in a cab fixed to the source under test, or in an enclosure remote from the source under test. One or more specified positions may be located in the vicinity of a work station, or in the vicinity of an attended or unattended machine. Such positions are sometimes referred to as bystander positions.

Emission sound pressure levels are determined as A-weighted levels. Additionally, levels in frequency bands and C-weighted peak emission sound pressure levels can be determined in accordance with this International Standard, if required.

NOTE 1 The contents of the series ISO 11200^[15] to ISO 11205^[19] are summarized in ISO 11200^[15].

With the method specified in this International Standard, results of accuracy grade 1 (precision grade) or accuracy grade 2 (engineering grade) are obtained. Corrections are applied for background noise, but not for the acoustic environment. Instructions are given for the mounting and operation of the source under test and for the choice of microphone positions for the work station and for other specified positions. One purpose of the measurements is to permit comparison of the performance of different units of a given family of machines, under defined environmental conditions and standardized mounting and operating conditions.

NOTE 2 The data obtained can also be used for the declaration and verification of emission sound pressure levels as specified in ISO 4871^[8].

1.2 Types of noise and noise sources

The method specified in this International Standard is suitable for all types of noise (steady, non-steady, fluctuating, isolated bursts of sound energy, etc.) defined in ISO 12001.

The method specified in this International Standard is applicable to all types and sizes of noise sources.

NOTE Throughout this International Standard the words “machine” and “source under test” are used to represent either a machine or a piece of equipment.