

**Geometrical Product Specifications (GPS) -
Dimensional measuring equipment - Design
and metrological characteristics of
mechanical dial gauges**

Geometrical Product Specifications (GPS) -
Dimensional measuring equipment - Design and
metrological characteristics of mechanical dial
gauges

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 463:2006 sisaldab Euroopa standardi EN ISO 463:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 28.04.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 463:2006 consists of the English text of the European standard EN ISO 463:2006.</p> <p>This document is endorsed on 28.04.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This International Standard specifies the most important design and metrological characteristics of mechanical dial gauges.</p>	<p>Scope: This International Standard specifies the most important design and metrological characteristics of mechanical dial gauges.</p>
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English Version

**Geometrical Product Specifications (GPS) - Dimensional
measuring equipment - Design and metrological characteristics
of mechanical dial gauges (ISO 463:2006)**

Spécification géométrique des produits (GPS) -
Instruments de mesure dimensionnel: Comparsateurs
mécaniques à cadran - Caractéristiques de conception et
caractéristiques métrologiques (ISO 463:2006)

Geometrische Produktspezifikation (GPS) -
Längenmessgeräte - Konstruktionsmerkmale und
messtechnische Merkmale für mechanische Messuhren
(ISO 463:2006)

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 463:2006) has been prepared by Technical Committee ISO/TC 213 "Dimensional and geometrical product specifications and verification" in collaboration with Technical Committee CEN/TC 290 "Dimensional and geometrical product specification and verification", the secretariat of which is held by AFNOR.

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 September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

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Endorsement notice

The text of ISO 463:2006 has been approved by CEN as EN ISO 463:2006 without any modifications.

**Geometrical Product Specifications
(GPS) — Dimensional measuring
equipment — Design and metrological
characteristics of mechanical dial gauges**

*Spécification géométrique des produits (GPS) — Instruments de
mesurage dimensionnel: Comparateurs mécaniques à cadran —
Caractéristiques de conception et caractéristiques métrologiques*



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 463 was prepared by Technical Committee ISO/TC 213, *Dimensional and geometrical product specifications and verification*.

This first edition of ISO 463 cancels and replaces ISO/R 463:1965, which has been technically revised.

Introduction

This International Standard is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see ISO/TR 14638). It influences the chain link 5 of the chains of standards on size, distance, form of a line independent of datum, form of a line dependent of datum, form of a surface independent of datum, form of a surface independent of datum, orientation, location, circular run-out and total run-out in the general GPS matrix.

For more detailed information of the relation of the standard to other standards and the GPS matrix model see Annex D.

Geometrical Product Specifications (GPS) — Dimensional measuring equipment — Design and metrological characteristics of mechanical dial gauges

1 Scope

This International Standard specifies the most important design and metrological characteristics of mechanical dial gauges.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14253-1, *Geometrical Product Specifications (GPS) — Inspection by measurement of workpieces and measuring equipment — Part 1: Decision rules for proving conformance or non-conformance with specifications*

ISO/TS 14253-2, *Geometrical Product Specifications (GPS) — Inspection by measurement of workpieces and measuring equipment — Part 2: Guide to the estimation of uncertainty in GPS measurement, in calibration of measuring equipment and in product verification*

ISO 14978:—¹⁾, *Geometrical Product Specification (GPS) — General concepts and requirement for GPS measuring equipment*

Guide to the expression of uncertainty in measurement (GUM). BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML, 1st edition, 1993, corrected and reprinted in 1995.

International Vocabulary of Basic and General Terms in Metrology (VIM). BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML, 2nd edition, 1993.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14253-1, ISO/TS 14253-2, ISO 14978, VIM and the following apply.

3.1

mechanical dial gauge

measuring instrument in which the axial displacements of a plunger are transmitted and magnified by suitable mechanical means to a pointer which rotates in front of an analog circular scale

NOTE It may also be provided with a revolution-counting device, e.g. in which a pointer rotates in front of a scale which indicates the number of revolutions of the pointer or the axial displacement of the plunger.

1) To be published.