

Geometrical product specifications (GPS) - Dimensional  
measuring equipment - Part 2: Reference disk gauges  
(ISO 1938-2:2017)

## EESTI STANDARDI EESSÕNA

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See Eesti standard EVS-EN ISO 1938-2:2017 sisaldab Euroopa standardi EN ISO 1938-2:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 1938-2:2017 consists of the English text of the European standard EN ISO 1938-2:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 17.040.10, 17.040.30, 17.040.40

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English Version

Geometrical product specifications (GPS) - Dimensional  
measuring equipment - Part 2: Reference disk gauges (ISO  
1938-2:2017)

Spécification géométrique des produits (GPS) -  
Équipement de mesure dimensionnel - Partie 2:  
Disques de référence pour calibres (ISO 1938-2:2017)

Geometrische Produktspezifikation (GPS) -  
Längenprüftechnik - Teil 2: Prüflehren für  
Rachenlehren (ISO 1938-2:2017)

This European Standard was approved by CEN on 1 January 2017.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN ISO 1938-2:2017) 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of an identical text or by endorsement, at the latest by August 2017 and conflicting national standards shall be withdrawn at the latest by August 2017.

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.

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### Endorsement notice

The text of ISO 1938-2:2017 has been approved by CEN as EN ISO 1938-2:2017 without any modification.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: <http://www.iso.org/iso/foreword.html>.

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

A list of all parts in the ISO 1938 series can be found on the ISO website.

This document does not include requirements for setting plug gauges and setting ring gauges, which were dealt with in ISO/R 1938:1971, 3.9.4.

This document covers the concepts and principles developed in ISO 14978.

## Introduction

This document is a Geometrical Product Specification (GPS) standard and is to be regarded as a general GPS standard (see ISO 14638). It influences links F and G of the size chain of standards in the general GPS matrix. For more detailed information on the relation of this document to other standards and the GPS matrix model, see [Annex B](#).

The ISO/GPS Matrix model given in ISO 14638 gives an overview of the ISO/GPS system of which this document is a part. The fundamental rules of ISO/GPS given in ISO 8015 apply to this document and the default decision rules given in ISO 14253-1 apply to specifications made in accordance with this document, unless otherwise indicated.

The terms and concepts used in this document (compared to ISO/R 1938:1971) have been changed according to needs and terminology in the other GPS standards.

This document deals with reference disk gauges. The use of reference disk gauges is explained in [Annex A](#).

NOTE The content of [Table 2](#) uses the modifiers given in ISO 14405-1 and ISO 1101.

# Geometrical product specifications (GPS) — Dimensional measuring equipment —

## Part 2: Reference disk gauges

### 1 Scope

This document specifies the most important metrological and design characteristics of reference disk gauges.

This document covers linear sizes of the gauge up to 500 mm.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 286-1, *Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes — Part 1: Basis of tolerances, deviations and fits*

ISO 1101, *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 1938-1:2015, *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 1: Plain limit gauges of linear size*

ISO 14405-1, *Geometrical product specifications (GPS) — Dimensional tolerancing — Part 1: Linear sizes*

ISO 17450-2, *Geometrical product specifications (GPS) — General concepts — Part 2: Basic tenets, specifications, operators, uncertainties and ambiguities*

ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

ISO/IEC Guide 99, *International vocabulary of metrology — Basic and general concepts and associated terms (VIM)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 286-1, ISO 1938-1, ISO 14405-1, ISO 17450-2, ISO/IEC Guide 98-3 and ISO/IEC Guide 99 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.1

##### reference disk gauge

gauge designed and intended to determine the working size of a gap gauge