



**SLOVENSKI STANDARD**  
**SIST EN ISO 12865:2000**  
**01-januar-2000**

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Ophthalmic instruments - Retinoscopes (ISO 12865:1998)

Ophtalmische Instrumente - Skiaskope (ISO 12865:1998)

Instruments ophtalmiques - Rétinoscopes (ISO 12865:1998)

Ta slovenski standard je istoveten z: **EN ISO 12865:1998**

[SIST EN ISO 12865:2000](https://standards.iteh.ai/catalog/standards/sist/ee8283c0-c5c4-46ac-9850-cb681680d503/sist-en-iso-12865-2000)

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**ICS:**

11.040.70      Oftalmološka oprema      Ophthalmic equipment

**SIST EN ISO 12865:2000**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 12865

June 1998

ICS 11.040.70

Descriptors: see ISO document

English version

## Ophthalmic instruments - Retinoscopes (ISO 12865:1998)

Instruments ophtalmiques - Réfractoscopes (ISO  
12865:1998)

Ophthalmische Instrumente - Skiaskope (ISO 12865:1998)

This European Standard was approved by CEN on 10 April 1998.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

## Foreword

The text of the International Standard ISO 12865:1998 has been prepared by Technical Committee ISO/TC 172 "Optics and optical instruments" in collaboration with Technical Committee CEN/TC 170 "Ophthalmic optics", the secretariat of which is held by DIN.

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 December 1998, and conflicting national standards shall be withdrawn at the latest by December 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 12865:1998 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in Annex ZA (normative). A-deviations are given in Annex ZB (informative).

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REPUBLIKA SLOVENSKO  
INŠTITUT ZA STANDARDIZACIJO  
Inštitut za standardizacijo  
Avaslova

ISO 12865

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**ANNEX ZA (normative)****Normative references to international publications with their corresponding European publications**

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 15004	1997	Ophthalmic instruments - Fundamental requirements and test methods	EN ISO 15004	1997

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## ANNEX ZB (informative)

### A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

This European Standard does not fall under any Directive of the EC. In the relevant CEN/CENELEC countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

The legislative situation in Germany requires the unit "dioptré" be designated by the symbol "dpt" instead of "D".

This is to avoid conflict with the rules of ISO 1000 being the basic International Standard on symbols and units and with the respective basic resolution of the CGPM (International Conference on Weights and Measures).

Identification of the regulation:

Gesetz über die Einheiten im Meßwesen vom 02.07.1969 in der Fassung der Bekanntmachung vom 22.04.1985; and

Ausführungsverordnung zum Gesetz über Einheiten im Meßwesen (Einheitenverordnung - EinhV) vom 13.12.1985, § 1 und Anlage 1, Nr. 9

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# INTERNATIONAL STANDARD

**ISO**  
**12865**

First edition  
1998-06-15

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## Ophthalmic instruments — Retinoscopes

*Instruments ophtalmiques — Réétinoscopes*

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Reference number  
ISO 12865:1998(E)

**ISO 12865:1998(E)****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.

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.

International Standard ISO 12865 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

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International Organization for Standardization  
Case postale 56 • CH-1211 Genève 20 • Switzerland  
Internet iso@iso.ch

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# Ophthalmic instruments — Retinoscopes

## 1 Scope

This International Standard, together with ISO 15004, specifies minimum requirements and test methods for hand-held streak and spot retinoscopes for use in objective determination of the refractive errors of the eye.

This International Standard takes precedence over ISO 15004, if differences exist.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

[SIST EN ISO 12865:2000](https://standards.iteh.ai/catalog/standards/sist/ee8283c0-c5c4-46ac-9850-cb681680d503/sist-en-iso-12865-2000)

ISO 15004:1997, *Ophthalmic instruments — Fundamental requirements and test methods*

IEC 60601-1:1988, *Medical electrical equipment — Part 1 : General requirements for safety*

## 3 Definitions

For the purposes of this International Standard, the following definitions apply.

### 3.1

#### **retinoscope**

ophthalmic instrument designed to assess objectively refractive errors of the eye by reflecting a beam of light into it from a mirror and observing the movement of the retinal reflex across the pupil

NOTE - A retinoscope usually consists of an illuminating system that produces a beam of light including a mirror with either a semireflective or a perforated highly reflective coating, a viewing system and a power supply for the light source.

### 3.2

#### **streak retinoscope**

retinoscope capable of producing a beam of light of rectangular cross-section with adjustable focusing

### 3.3

#### **spot retinoscope**

retinoscope capable of producing a beam of light of approximately circular cross-section

NOTE - The spot image focus may be adjustable.