

SLOVENSKI STANDARD

SIST EN 61010-2-020:2007

01-februar-2007

Nadomešča:

SIST EN 61010-2-020:1999

SIST EN 61010-2-020:1999/A1:1999

Varnostne zahteve za električno opremo za meritve, nadzor in laboratorijsko uporabo - 2-020. del: Posebne zahteve za laboratorijske centrifuge (IEC 61010-2-020:2006)

Safety requirements for electrical equipment for measurement, control, and laboratory use -- Part 2-020: Particular requirements for laboratory centrifuges

Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte -- Teil 2-020: Besondere Anforderungen an Laborzentrifugen

<https://standards.iteh.ai/catalog/standards/sist/8300ebb6-d0e1-439c-9e0c-5b968d7117d4/sist-en-61010-2-020-2007>

Règles de sécurité pour appareils électriques de mesure, de régulation et de laboratoire -- Partie 2-020: Exigences particulières pour centrifugeuses de laboratoire

Ta slovenski standard je istoveten z: EN 61010-2-020:2006

ICS:

19.080	Električno in elektronsko preskušanje	Electrical and electronic testing
71.040.10	Kemijski laboratoriji. Laboratorijska oprema	Chemical laboratories. Laboratory equipment

SIST EN 61010-2-020:2007

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61010-2-020

August 2006

ICS 19.080; 71.040.10

Supersedes EN 61010-2-020:1994 + A1:1996

English version

**Safety requirements for electrical equipment
for measurement, control, and laboratory use
Part 2-020: Particular requirements
for laboratory centrifuges
(IEC 61010-2-020:2006)**

Règles de sécurité pour appareils
électriques de mesure, de régulation
et de laboratoire
Partie 2-020: Exigences particulières
pour centrifugeuses de laboratoire
(CEI 61010-2-020:2006)

Sicherheitsbestimmungen für
elektrische Mess-, Steuer-, Regel- und
Laborgeräte
Teil 2-020: Besondere Anforderungen
an Laborzentrifugen
(IEC 61010-2-020:2006)

ITEH STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61010-2-020:2007

This European Standard was approved by CENELEC on 2006-07-01. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 66/367/FDIS, future edition 2 of IEC 61010-2-020, prepared by IEC TC 66, Safety of measuring, control, and laboratory equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61010-2-020 on 2006-07-01.

This European Standard supersedes EN 61010-2-020:1994 + A1:1996.

It has been updated to provide more specific wording for some of the instructions or subclauses, and the language has been updated to reflect current terminology used in the industry today.

This Part 2-020 is to be used in conjunction with EN 61010-1:2001, Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements. Consideration may be given to future editions of, or amendments to, EN 61010-1.

This Part 2-020 supplements or modifies the corresponding clauses of EN 61010-1:2001 so as to convert it into the European Standard "Safety requirements for laboratory centrifuges".

Where a particular clause or subclause of Part 1 is not mentioned in this Part 2-020, that clause or subclause applies as far as is reasonable. Where this part states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2007-04-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-07-01

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In this standard: <https://standards.iteh.ai/catalog/standards/sist/8300ebb6-d0e1-439c-9e0c-5b968d7117d4/sist-en-61010-2-020-2007>

- 1) the following print types are used.
 - requirements: in roman type;
 - NOTES: in small roman type;
 - *conformity and tests: italic type*;
 - terms used throughout this standard which have been defined in Clause 3: SMALL ROMAN CAPITALS;
- 2) subclauses, figures, tables and notes which are additional to those in Part 1 are numbered starting from 101; additional annexes are lettered AA, BB, etc.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61010-2-020:2006 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60034

NOTE Harmonized as EN 60034 (Series) (not modified).

Annex ZA
(normative)**Normative references to international publications
with their corresponding European publications****Addition** to annex ZA of EN 61010-1:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 3864	Series	Graphical symbols - Safety colours and safety - signs		-

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NORME INTERNATIONALE INTERNATIONAL STANDARD

**CEI
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61010-2-020

Deuxième édition
Second edition
2006-05

PUBLICATION GROUPÉE DE SÉCURITÉ
GROUP SAFETY PUBLICATION

**Règles de sécurité pour appareils électriques
de mesure, de régulation et de laboratoire –**

**Partie 2-020:
Exigences particulières pour centrifugeuses
de laboratoire**

ITC STANDARD PREVIEW
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**Safety requirements for electrical equipment
for measurement, control, and laboratory use –**

**Part 2-020:
Particular requirements for laboratory centrifuges**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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Pour prix, voir catalogue en vigueur
For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR
MEASUREMENT, CONTROL, AND LABORATORY USE –****Part 2-020: Particular requirements for laboratory centrifuges**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61010-2-020 has been prepared by IEC technical committee 66, Safety of measuring, control and laboratory equipment.

This second edition cancels and replaces the first edition published in 1992 and its Amendment 1 (1996). It constitutes a technical revision. This second edition has been updated to provide more specific wording for some of the instructions or subclauses, and the language has been updated to reflect current terminology used in the Industry today.

It has the status of a group safety publication in accordance with IEC Guide 104.

The text of this standard is based on the following documents:

FDIS	Report on voting
66/367/FDIS	66/371/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-020 is intended to be used in conjunction with IEC 61010-1. It was established on the basis of the second edition (2001). Consideration may be given to future editions of, or amendments to, IEC 61010-1.

This Part 2-020 supplements or modifies the corresponding clauses in IEC 61010-1 so as to convert that publication into the IEC standard: *Safety requirements for laboratory centrifuges*.

Where a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. Where this part states "addition", "modification" or "replacement", the relevant requirement, test specification or note in Part 1 should be adapted accordingly.

In this standard:

1) the following print types are used:

- requirements: in roman type;
- NOTES: in small roman type;
- *conformity and tests*: in italic type;
- terms used throughout this standard which have been defined in Clause 3: SMALL ROMAN CAPITALS.

2) subclauses, tables or figures which are additional to those in Part 1 are numbered starting from 101; additional annexes are lettered AA, BB, etc.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE –

Part 2-020: Particular requirements for laboratory centrifuges

1 Scope and object

This clause of Part 1 is applicable except as follows:

1.1 Scope

Replacement:

This Part 2 is applicable to electrically powered LABORATORY CENTRIFUGES.

NOTE If all or part of the equipment falls within the scope of one or more other Part 2 standards of IEC 61010 as well as within the scope of this standard, it will also need to meet the requirements of those other Part 2 standards.

1.1.2 Equipment excluded from scope

Addition:

Add the following new item:

- aa) IEC 60034 (Rotating electrical machinery);

1.2 Object

1.2.1 Aspects included in scope

Addition:

Add the following five new items:

- aa) contact with moving parts (see 7.2);
- bb) LABORATORY CENTRIFUGE movement during any DISRUPTION (see 7.3.101);
- cc) high energy chemical reaction after ROTOR DISRUPTION (see 7.6.101.2 I));
- dd) ineffectiveness of BIOSEALS (see 13.101)

1.2.2 Aspects excluded from scope

Addition:

Add the following two new items:

- aa) additional precautions which may need to be observed when centrifuging materials which are flammable or explosive (see 5.4.101);
- bb) additional precautions which may need to be observed when centrifuging materials that could react chemically with sufficient vigour to cause a HAZARD (see 5.4.101).

1.4 Environmental conditions

1.4.1 Normal environmental conditions

Modification:

Modify item c) as follows:

c) temperature 2 °C to 40 °C;

1.4.2 Extended environmental conditions

Modification:

Modify item c) as follows:

c) ambient temperatures below 2 °C or above 40 °C;

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

ISO 3864 (all parts), *Graphical symbols – Safety colours and safety signs.*

3 Terms and definitions

This clause of Part 1 is applicable except as follows:

3.1 Equipment and states of equipment

Additions:

Add the following three new definitions:

3.1.101

LABORATORY CENTRIFUGE:

apparatus intended for laboratory use that applies a centrifuging effect to sample materials

3.1.102

CENTRIFUGE-ROTOR COMBINATION

LABORATORY CENTRIFUGE and ROTOR ASSEMBLY that are intended to operate together and which have to be evaluated together

3.1.103

DISRUPTION

event in which the ROTOR ASSEMBLY, or part of it, fails or becomes detached during rotation