

SLOVENSKI STANDARD
SIST EN ISO 23953-2:2006/A1:2012
01-julij-2012

**Razstavne hladilne omare - 2. del: Razvrščanje, zahteve in preskusni pogoji -
Dopolnilo 1 (ISO 23953-2:2005/Amd 1:2012)**

Refrigerated display cabinets - Part 2: Classification, requirements and test conditions -
Amendment 1 (ISO 23953-2:2005/Amd 1:2012)

Verkaufskühlmöbel - Teil 2: Klassifizierung, Anforderungen und Prüfbedingungen -
Änderung 1 (ISO 23953-2:2005/Amd 1:2012)

Meubles frigorifiques de vente - Partie 2: Classification, exigences et méthodes d'essai -
Amendement 1 (ISO 23953-2:2005/Amd 1:2012)

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Ta slovenski standard je istoveten z: EN ISO 23953-2:2005/A1:2012

ICS:

97.130.20 Hladilne naprave za trgovine Commercial refrigerating
appliances

SIST EN ISO 23953-2:2006/A1:2012 en,fr,de

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EUROPEAN STANDARD

EN ISO 23953-2:2005/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2012

ICS 97.130.20

English Version

Refrigerated display cabinets - Part 2: Classification, requirements and test conditions - Amendment 1 (ISO 23953-2:2005/Amd 1:2012)

Meubles frigorifiques de vente - Partie 2: Classification, exigences et méthodes d'essai - Amendement 1 (ISO 23953-2:2005/Amd 1:2012)

Verkaufskühlmöbel - Teil 2: Klassifizierung, Anforderungen und Prüfbedingungen - Änderung 1 (ISO 23953-2:2005/Amd 1:2012)

This amendment A1 modifies the European Standard EN ISO 23953-2:2005; it was approved by CEN on 14 February 2012.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This amendment 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 CEN-CENELEC Management Centre has the same status as the official versions.

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



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....3

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[SIST EN ISO 23953-2:2006/A1:2012](https://standards.iteh.ai/catalog/standards/sist/4ca25e42-584c-4227-b6b7-3bb6c920e9a1/sist-en-iso-23953-2-2006-a1-2012)
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Foreword

This document (EN ISO 23953-2:2005/A1:2012) has been prepared by Technical Committee CEN/TC 44 "Commercial refrigerated cabinets, catering refrigerating appliances and industrial refrigeration", the secretariat of which is held by UNI, in collaboration with Technical Committee ISO/TC 86 "Refrigeration and air-conditioning".

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 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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SIST EN ISO 23953-2:2006/A1:2012

<https://standards.iteh.ai/catalog/standards/sist/4ca25e42-584c-4227-b6b7-3bb6c920e9a1/sist-en-iso-23953-2-2006-a1-2012>

INTERNATIONAL STANDARD

ISO
23953-2

First edition
2005-10-15

AMENDMENT 1
2012-02-15

Corrected version
2012-04-15

Refrigerated display cabinets —

Part 2: Classification, requirements and test conditions

AMENDMENT 1

iTeh STANDARD PREVIEW

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Meubles frigorifiques de vente —

Partie 2: Classification, exigences et méthodes d'essai

SIST EN ISO 23953-2:2006/A1:2012

AMENDEMENT 1

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Reference number
ISO 23953-2:2005/Amd.1:2012(E)

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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.

Amendment 1 to ISO 23953-2:2005 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 44, *Commercial refrigerated cabinets, catering refrigerating appliances and industrial refrigeration*, in collaboration with Technical Committee ISO/TC 86, *Refrigeration and air-conditioning*, Subcommittee SC 7, *Testing and rating of commercial refrigerated display cabinets*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This corrected version of ISO 23953-2:2005/Amd.1:2012 incorporates the following correction on page 3:

Page 14, Figure 3 <https://standards.iteh.ai/catalog/standards/sist/4ca25e42-584c-4227-b6b7-3bb6c920e9a1/sist-en-iso-23953-2-2006-a1-2012>

Replace Figure 3 with the following new Figure 2 a), b), c) and d).

has been corrected to read:

Page 14, Figure 3

Renumber Figure 3 as Figure 2.

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Refrigerated display cabinets —

Part 2: Classification, requirements and test conditions

AMENDMENT 1

Page 6, 4.1.4.1

Replace “the maximum working pressure to which they will be subjected when the cabinet is in operation or at rest.” with “the maximum working pressure to which they are subjected when the cabinet is in operation or at rest.”

Page 7, 4.1.6.2

Replace the subclause with the following:

4.1.6.2 Temperature sensor location

The temperature sensor location shall be readily accessible to enable on-site testing for the correct indication of temperature and replacement of the temperature measuring instrument on site in service.

NOTE 1 The temperature sensor of a thermometer is considered to be “readily accessible” if it can be reached directly for examination. It can be necessary to remove access panel(s) to carry out replacement.

NOTE 2 For cabinets with natural convection cooling, the positioning of the temperature sensor in a guide tube is also considered to be “readily accessible” if the sensor can be introduced into and removed from the guide tube without a tool.

Wherever possible, the mounting method shall not supply heat to, or withdraw heat from, the temperature sensor.

The temperature sensor shall be protected against heat radiation from the external ambient.

The temperature sensor's location is defined as part of the temperature test of the refrigerated display cabinet. During the temperature test, air temperatures at the declared sensor location shall be measured and these values noted in the test report.

NOTE 3 For electronic controllers, it is possible to display a calculated temperature.

NOTE 4 For the recording and display of temperatures, one or two temperature sensors can be used. The temperature sensor can be the same as those used for controlling the refrigeration. An alarm can be activated in case of error. This option is not in accordance with the requirements of EN 12830.

NOTE 5 It is the responsibility of the supplier and user to ensure that the location of the temperature sensor complies with national regulation on temperature control of foodstuffs.

Page 8, Figure 2

Delete Figure 2.

ISO 23953-2:2005/Amd.1:2012(E)

Page 9, 4.2.2

Replace the Note with the following:

NOTE Annex B compares laboratory and store condition.

Page 9, Table 1

Replace the table with the following:

Table 1 — M-package temperature classes

| Class | Highest temperature, θ_{ah} , of warmest M-package colder than or equal to ^a | Lowest temperature, θ_b , of coldest M-package warmer than or equal to ^a | Lowest temperature, θ_{al} , of all M-package colder than or equal to ^a |
|-------|--|--|---|
| | °C | | |
| L1 | -15 | — | -18 |
| L2 | -12 | — | -18 |
| L3 | -12 | — | -15 |
| M1 | +5 | -1 | — |
| M2 | +7 | -1 | — |
| H1 | +10 | +1 | — |
| H2 | +10 | +1 | — |
| S | Special classification | | |

^a See Figure 28.

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Page 10, Table 2

In the third row of the table, replace “Annex D” with “Annex C”.

Page 11, 5.2.2

Replace the fourth and final paragraph with the following:

The total display (TDA) area is calculated according to Annex A.

Page 13, Table 3

Replace the table with the following:

Table 3 — Climate classes

| Test room climate class | Dry bulb temperature °C | Relative humidity % | Dew point °C | Water vapour mass in dry air g/kg |
|-------------------------|----------------------------|------------------------|-----------------|--------------------------------------|
| 0 | 20 | 50 | 9,3 | 7,3 |
| 1 | 16 | 80 | 12,6 | 9,1 |
| 8 | 23,9 | 55 | 14,3 | 10,2 |
| 2 | 22 | 65 | 15,2 | 10,8 |
| 3 | 25 | 60 | 16,7 | 12,0 |
| 4 | 30 | 55 | 20,0 | 14,8 |
| 6 | 27 | 70 | 21,1 | 15,8 |
| 5 | 40 | 40 | 23,9 | 18,8 |
| 7 | 35 | 75 | 30,0 | 27,3 |

NOTE The water vapour mass in dry air is one of the main points influencing the performance and the energy consumption of the cabinets. Therefore, the order of the climate class in the table is based on the water vapour mass column. See also Annex B to compare lab and store conditions.

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Page 13, 5.3.1.3.2

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The point for measurement of ambient temperature and relative humidity shall be midway along the length of the cabinet and in accordance with Figures 2 to 5.

In the case of typical island cabinets, and island with air discharge in the middle, temperatures shall be taken at both sides [see Figure 3 a), b), c)].

For plug-in cabinets, the warm condenser air flow shall be prevented from influencing the temperature at the measuring point by air deflectors or other suitable means (see 5.3.2.1, Figure 10).

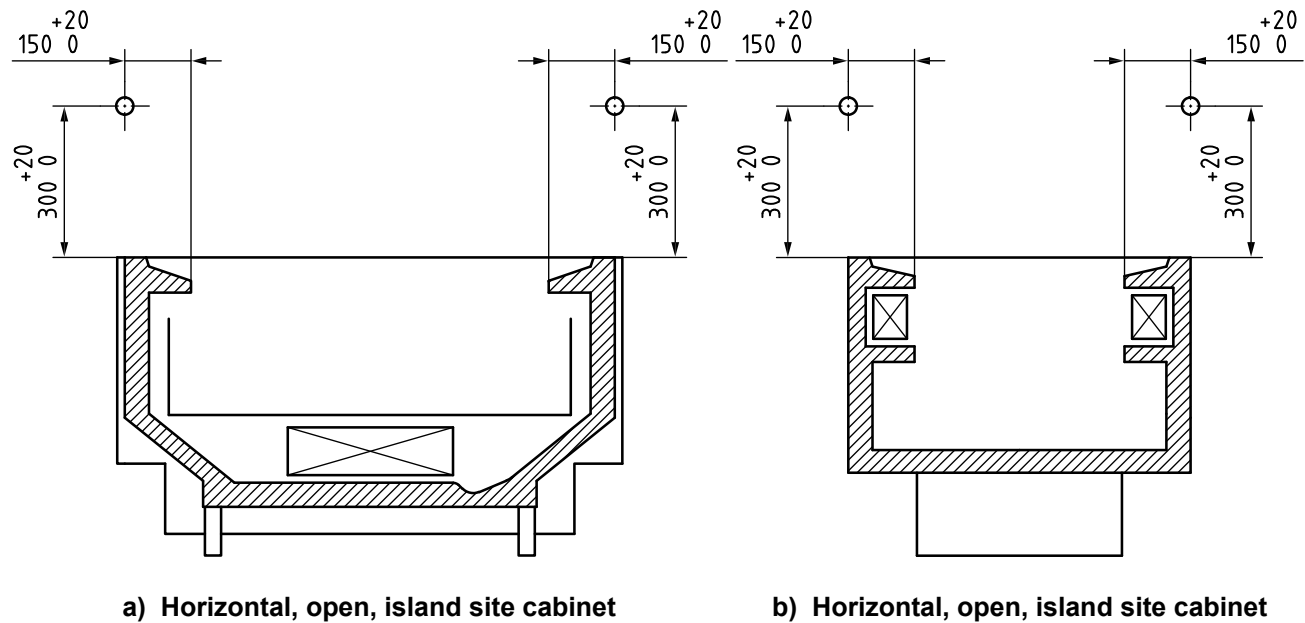
Page 14, Figure 3

Renumber Figure 3 as Figure 2.

ISO 23953-2:2005/Amd.1:2012(E)

Page 15, Figure 4

Replace Figure 4 with the following new Figure 3 a), b), c) and d):



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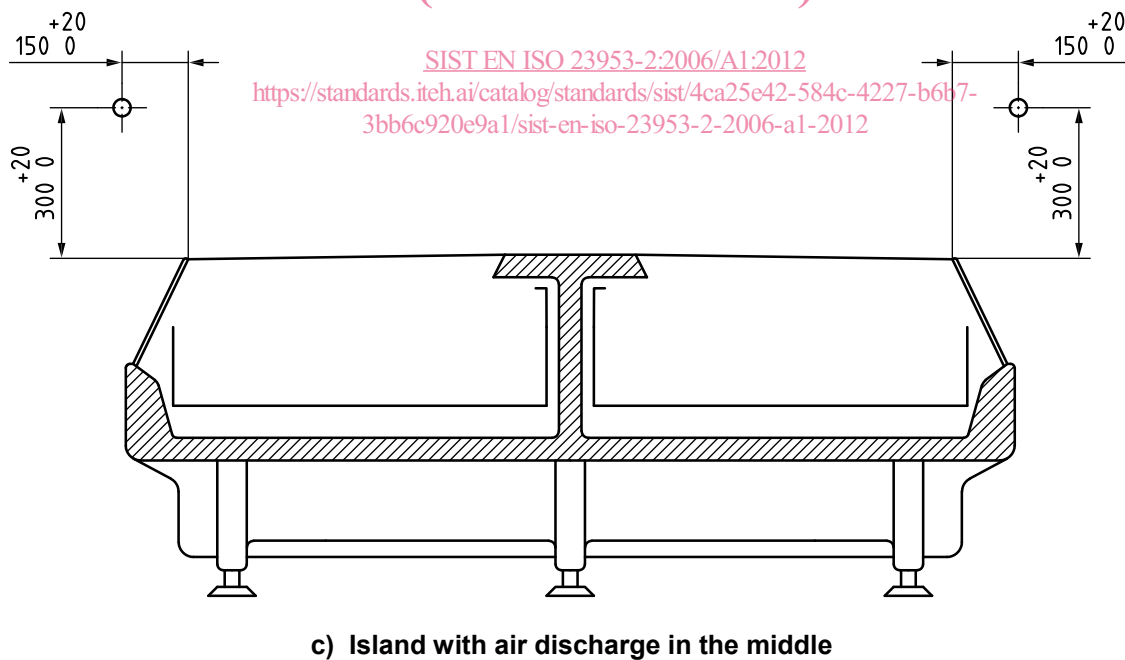
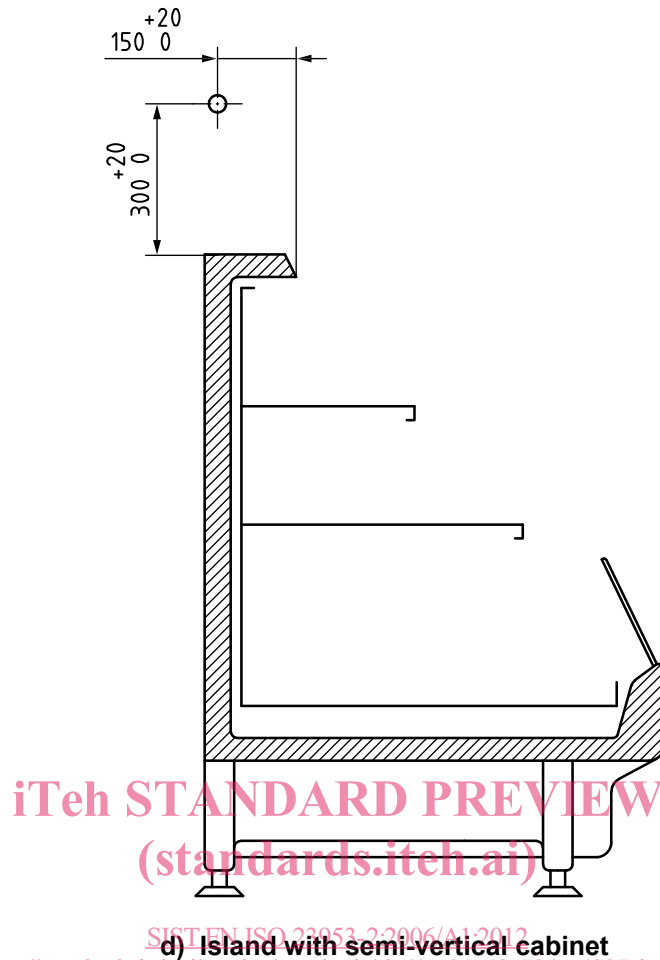


Figure 3 (continued)



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Figure 3 — Climate measuring point for two typical examples of horizontal, open, island site cabinets [a], b)] for island with air discharge in the middle [c)] and for semi-vertical cabinet [d)]

Pages 15 and 16, Figures 5 and 6

Renumber Figures 5 and 6 as Figures 4 and 5.

Page 16, Table 4

Replace the last row with the following (thus deleting the dimension and mass of test packages "(37,5 × 100 × 200) 750"):

| | |
|---|-----|
| The following package may be used as fillers to complete the cabinet loading: | |
| 25 × 100 × 200 | 500 |

Page 18, Figure 7

Renumber Figure 7 as Figure 6.

Page 20, Figure 8

Renumber Figure 8 as Figure 7.