
Methods of measuring the energy consumption of electric mains operated household refrigerators, frozen food storage cabinets, food freezers and their combinations, together with associated characteristics

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Verfahren zur Messung der Aufnahme elektrischer Energie und damit zusammenhängender Eigenschaften für netzbetriebene Haushalt-Kühlgeräte, Tiefkühlgeräte, Gefriergeräte und deren Kombinationen

Méthodes de mesure de la consommation d'énergie électrique et des caractéristiques associées, des réfrigérateurs, conservateurs et congélateurs a usage ménager et leurs combinaisons

Ta slovenski standard je istoveten z: EN 153:1995

ICS:

97.040.30	Hladilni aparati za dom	Domestic refrigerating appliances
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SIST EN 153:2000**en**

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EUROPEAN STANDARD

EN 153

NORME EUROPÉENNE

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July 1995

ICS 97.040.30

Supersedes EN 153:1990

Descriptors: household appliances, household refrigerators, freezers, household frozen food cabinets, measurement, electricity consumption, testing conditions, characteristics, consumer information

English version

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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.

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CEN

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

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

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 44 "Household refrigerating appliances and commercial refrigerated cabinets", of which the secretariat is held by UNI.

This European Standard supersedes EN 153:1990.

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of an identical text or by endorsement, at the latest by January 1996, and conflicting national standards shall be withdrawn at the latest by January 1996.

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

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1 Scope

This European standard specifies the methods to be used for measuring the energy consumption of electric mains operated household refrigerating appliances, together with associated characteristics, for informing consumers.

This European standard applies to:

- a) Household refrigerators with or without low temperature compartment (s) (see clause 3);
- b) Household refrigerator-freezers type I and type II (see clause 3);
- c) Household frozen food storage cabinets and food freezers (see clause 3);
- d) Household refrigerating appliances, refrigerators, refrigerator-freezers, frozen food storage cabinets and food freezer cooled by forced air circulation (see clause 3).

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2 Normative references

This European standard incorporates by dated or undated reference, 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 only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 28187:1991	Performance of household refrigerating appliances - Refrigerator-freezers
prEN 25155	Household refrigerating appliances- frozen food storage cabinets and food freezers- characteristics and test methods
prEN 27371	Household refrigerating appliances- Refrigerators with or without low-temperature compartment-characteristics and test methods
prEN 28561	Household frost free refrigerating appliances - Refrigerators, refrigerator-freezers - Frozen food storage cabinets and food freezers cooled by internal forced air circulation - Characteristics and test methods

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3 Definitions

For the purposes of this European standard, the following definitions apply:

Definitions relating to household refrigerators are those given in accordance with prEN 27371, clause 3;

Definitions relating to household refrigerator-freezers are those given in accordance with EN 28187:1991, clause 3;

Definitions related to household refrigerating appliances, refrigerators, refrigerator-freezers, frozen food storage cabinets and food freezers cooled by forced air circulation are those given in accordance with prEN 28561, clause 3;

Definitions relating to household frozen food storage cabinets and food freezers are those given in accordance with prEN 25155, clause 4.

4 General test conditions SIST EN 153:2000

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The general test conditions to be applied are specified in the relevant referenced prEN and EN but with the following deviations:

a) Ambient temperature: The ambient temperature for all climate classes (SN, N, ST, T) shall be + 25 °C for the energy consumption test, the temperature rise test and the freezing test.

These deviations from prEN and EN are meant to provide for direct comparison between class SN, N, ST and T appliances.

b) Electric power supply¹⁾

For appliances with a rated voltage of 220 V or more, the tests are carried out at 220 V + 1 %.

Frequency 50 Hz + 1 %.

c) Loading of test packages - Storage plan

The storage plan of the manufacturer shall be taken into account provided that it is in accordance with the relevant referenced prEN and EN.

¹⁾ According to CENELEC HD 472, the European voltage should be 230 V after a transition period

5 Measurement of the energy consumption

In the case of a refrigerator with or without a low temperature compartment the energy consumption shall be measured in accordance with prEN 27371, clause 15;

If the appliance is equipped with a cellar and/or chill compartment the conditions for that compartment shall be those as specified in EN 28187;

In the case of a refrigerator-freezer, the energy consumption shall be measured in accordance with EN 28187, clause 15;

In the case of a refrigerating equipment cooled by forced air circulation, the energy consumption shall be measured in accordance with prEN 28561, clause 15;

In the case of a frozen food storage cabinet or a food freezer the energy consumption shall be measured in accordance with prEN 25155, clause 15.

The deviations from the relevant referenced prEN and EN in accordance with clause 4 of this European standard shall be respected.

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6 Declaration of the energy consumption (standards.iteh.ai)

The energy consumption shall be expressed in KWh/24 h to two decimal places. <https://standards.iteh.ai/catalog/standards/sist/0bef71f0-5e04-4007-bd4-f039d62e334d/sist-en-153-2000>

When appliances intended to be combined are offered for sale separately, the energy consumption of each appliance shall be given.

6.1 Tolerances on the declared energy consumption and control

See clause 6 in the relevant standard.

7 Characteristics associated with the energy consumption

According to the type of appliance (refrigerators, refrigerator-freezers, refrigerating appliances cooled by air circulation, frozen food storage cabinets, food freezers and their combination) the following information, helpful to the user to judge the energy consumption of an appliance, shall be supplied with the declaration of energy consumption:

- The rated total storage volume of the appliance;
- The rated storage volume of any low temperature compartment or any food freezer compartment, together with the classification

temperature and the classification symbol and the rated storage volume of any cellar and/or chill compartment, if applicable;

- The method of defrosting or the indication "frost free" before the definition of the different type of appliances or of their compartments for refrigerating appliances or compartments cooled by forced air circulation;
- The freezing capacity, if applicable;
- The temperature rise time of the load in case of failure, if applicable.

7.1 Storage volume (s)

7.1.1 Determination of storage volume (s)

The storage volume (s) shall be measured according to the relevant referenced prEN and EN.

7.1.2 Declaration of storage volume(s)

The storage volume (s) shall be declared in litres, to the nearest litre.

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7.1.3 Tolerance on the declared storage volume(s) and control

If the result of the measurement carried out on the first appliance is equal to or less than the tolerance given in the relevant referenced prEN and EN, clause 6, the declared value is confirmed. If the result is outside the tolerance given in the relevant referenced prEN and EN, clause 6, the measurement shall be carried out on a further three appliances.

If the result of the measurement on each of the three additional appliances is equal to or less than the tolerance given in the relevant referenced prEN and EN, clause 6, the declared value is confirmed.

If not, the declared value cannot be confirmed.

7.2 Methods of defrosting

The methods of defrosting defined in EN 28187, 3.4.5, are applicable for all appliances except for appliances or compartments and frozen food storage cabinets and food freezers cooled by forced air circulation for which the methods of defrosting are defined in prEN 28561, 3.4.5.

When an appliance comprises two or more compartments which have to be defrosted, the method of defrosting shall be specified separately for each compartment.

7.3 Freezing capacity