



SLOVENSKI STANDARD
SIST EN IEC 63252:2020/A11:2024

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Poraba energije prodajnih avtomatov - Dopolnilo A11

Energy consumption of vending machines

Energieverbrauch von Verkaufsautomaten

Consommation d'énergie des distributeurs automatiques

Ta slovenski standard je istoveten z: EN IEC 63252:2020/A11:2024

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27.010	Prenos energije in toplote na splošno	Energy and heat transfer engineering in general
55.230	Razdelilni in prodajni avtomati	Distribution and vending machines

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EUROPEAN STANDARD
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English Version

Energy consumption of vending machines

Consommation d'énergie des distributeurs automatiques

Energieverbrauch von Verkaufsautomaten

This amendment A11 modifies the European Standard EN IEC 63252:2020; it was approved by CENELEC on 2024-04-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN IEC 63252:2020/A11:2024) has been prepared by CLC/TC 59X "Performance of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2025-02-23
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2027-08-23

This document amends EN IEC 63252:2020.

It includes the following significant changes:

- Introduction of a definition of refrigerated vending machine;
- Refinement of the set up of category 4 and 6 machines for testing (5.1);
- Clarification of the placing of M-cans (5.4);
- Clarification of the product loading procedure and introduction of the option for using cans other than 330 ml (5.5);
- Clarification of product storage temperatures (5.6);
- Clarification of the practical definition of stabilization (5.7);
- Clarification of the testing procedure for machines without an energy saving mode (6.3.2);
- Clarification of energy measurement test procedure (6.3.3);
- Modification of the definition of volume (6.4);
- Introduction of an equation for the calculation of energy consumption for machines without energy saving mode (Clause 7);
- Modification of the calculation of energy consumption to provide consumption per day rather than per year (Clause 7);
- Clarification of the definition of category 6 machines;
- Editorial improvement regarding consistent use of terms;
- Introduction of dated normative references;
- and updated Annexes ZZA and ZZB.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annexes ZZA and ZZB, which are an integral part of this document.

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Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

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1 Modification to Clause 1, “Scope”

Replace Table 1 as follows:

“

Table 1 — Vending machine categories

Category	Machine type
1	Refrigerated closed-fronted can and bottle machines where the products are held in stacks
2	Refrigerated glass-fronted can and bottle, confectionery and snack machines
3	Refrigerated glass-fronted machines entirely for perishable foodstuffs
4	Refrigerated dual-temperature glass-fronted machines
5	Confectionery and snack machines that are not refrigerated
6	Combination machines consisting of two machines in the same housing and powered by one chiller

“

2 Modification to Clause 3, “Terms and definitions”

Add the following term entry:

3.1.12

refrigerated vending machine

refrigerating appliance with a direct sales function designed to accept consumer payments or tokens to dispense chilled foodstuffs and other items without on-site labour intervention

3 Modification to Clause 4, “General requirements”

Replace Table 2 as follows: [SIST EN IEC 63252:2020/A11:2024](https://standards.iteh.ai/catalog/standards/sist/7e00ddeb-f738-4dd0-bdbc-e90522056aac/sist-en-iec-63252-2020-a11-2024)

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Table 2 — Description of vending machine categories

Category	Machine type	Comment
1	Refrigerated closed-fronted can and bottle machines where the products are held in stacks	These machines serve refrigerated beverages that are not visible before vending.
2	Refrigerated glass-fronted can and bottle, confectionery and snack machines	These machines are for foodstuffs which are refrigerated for reasons not related to food safety.
3	Refrigerated glass-fronted machines entirely for perishable foodstuffs	These machines are refrigerated for food safety reasons and have a health control cut-out function.
4	Refrigerated dual-temperature glass-fronted machines	These machines have two compartments, each of which is held at a different temperature, one of which is for perishable food. The compartment containing perishable food shall be controlled by a health control cut-out function.
5	Confectionery and snack machines that are not refrigerated	These machines store product at ambient temperature without cooling.

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Category	Machine type	Comment
6	Combination machines consisting of two machines in the same housing and powered by one chiller.	The machines usually consist of two machine modules separated by a vertical panel but could also be two units mounted one above the other. A typical combination machine would consist of a closed-fronted bottle machine and a glass-fronted snack machine, or two separate food and snack machines. The volumes of the individual machines are not adjustable while the size of the individual compartments within a machine may be adjustable.

4 Modifications to Clause 5, “Conditions for the tests”

Add in 5.1 after the 6th paragraph the following paragraph:

“Category 4 and 6 machines shall be tested with the colder compartment set to its maximum volume. This is specified in the manufacturer’s manual. Where no guidance is given the machine shall be set up by the manufacturer with the plate separating the two sections set as high as the machine allows.”

Delete the 8th paragraph of 5.1.

Replace in 5.3 the paragraph with the following:

“The energy consumption shall be measured by a direct meter reading method, as described in EN 50564:2011, and recorded in the test report shown in Annex B.”

Add in 5.4, at the end of the 3rd paragraph, the following sentence:

“In machines with more than one can in a row the M-cans should be placed in the front row.”

Replace in the 3rd paragraph the sentence

“For category 2 and 3 and 5 machines, 12 M-cans shall be placed at the extremes of the cabinet and in the middle row.”

with

“For category 2 and 3 machines, 12 M-cans shall be placed at the extremes of the cabinet and in the middle row.”

Delete in 5.4 the last sentence.

Replace 5.5 as follows:

“With the exception of machines in category 5, glass-fronted spiral or tray machines shall be set up entirely with spirals or trays so as to vend only 330 ml cans. Category 5 machines shall be tested empty. Carousel or drum machines are to be set up with the maximum number of sectors that are large enough to contain a 330 ml can. Closed-fronted can/bottle machines are to be set up to contain the maximum number of 330 ml cans. Where the machine design does not permit the use of 330 ml cans, cans of the nearest possible volume shall be used.

Machines are to be filled with the maximum number of 330 ml cans that can be placed in such a way as to be immediately available for vending. The capacity shall be recorded in the test report (Annex B).

Note that for categories 1, 2, 4 and 6 loading temperatures are different for the initial loading and for the pull-down test loading, see Table 3.”

Replace the text in 5.6 as follows:

“Category 1 machines shall be tested in ready mode with the machine set to deliver a maximum product temperature of 7 °C.

Category 2 machines (not suitable for perishable foodstuffs) shall be tested in ready mode with the machine set to deliver a maximum product temperature of 12 °C.

Category 3 machines shall be tested in ready mode with the machine set to deliver a maximum product temperature of 3 °C.

Category 4 machines shall be tested in ready mode with the machine set to deliver a maximum product temperature of 3 °C in the compartment controlled by a health control cut-out function. This compartment shall be set up with the maximum number of rows as determined by the manufacturer and identified in the operator's manual.

In machines where the temperature of the warmer compartment can be regulated it shall be set to a maximum product temperature of 12 °C.

Category 6 machines shall be tested in the conditions appropriate for each compartment.

In all cases the highest and lowest actual temperature recorded by the sensor in any one M-can and the average temperature shall be recorded in the test report (Annex B).

In the case of a **zone-cooled vending machine**, the temperature of products further away from the dispensing mechanism may be above the vending temperature, but temperature requirements apply to M-cans as described in 5.4.

NOTE The factory-set temperature or the compartment airflow settings may need to be adjusted to achieve these temperatures. "

Replace in 5.7 the 2nd paragraph with the following:

"Stability is defined, for these tests, as the difference between the maximum and minimum temperatures measured by any one sensor in the steady state being no more than 1 °C over a 2-hour period, with the exception of the period during automatic defrost when the temperature of one or more sensors may rise by up to 2° C."

5 Modifications to Clause 6, "Energy consumption measurement"

Replace in 6.1 the 2nd sentence of the last paragraph with the following:

"A timeline of the order of all the tests is provided for information in Figures A.1 and A.2."

Replace Table 3, "Product loading temperatures for reloading and pull-down test", with the following table:

"

Table 3 — Product loading temperatures for reloading and pull-down test

Machine category	Machine type	Temperature of products being loaded, °C
1	Refrigerated closed can and bottle machines where the products are held in stacks	25 ± 1
2	Refrigerated glass fronted can and bottle, confectionery and snack machines	25 ± 1
3	Refrigerated machines for perishable foodstuffs	3 ± 1
4	Refrigerated multi-temperature glass fronted machines: Perishable food compartment Non-perishable food compartment	3 ± 1 25 ± 1
6	Combination machines consisting of two machines in the same housing and powered by one chiller.	As appropriate for each compartment

"

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Replace Table 4, "Permitted loading times", with the following table:

"

Table 4 — Permitted loading times

Number of cans to be loaded	Loading time
300 and over	40 min
225 to 299	30 min
125 to 224	20 min
Fewer than 125	10 min

"

Replace in 6.3.1 the last paragraph with the following:

"The test for category 5 machines starts with a run-in period of 3 hours."

Replace in 6.3.2 the 2nd paragraph with the following:

"For all machines with M cans verify that temperature stability has been reached as per 5.7."

Replace in 6.3.2 items a), b) and c) of the 3rd paragraph with the following:

"

- a) ready mode, hours 1 to 8 (after stabilization);
- b) energy-saving mode, including defrost, hours 9 to 20, if appropriate;
- c) recovery period, beginning of hour 21 until the product temperatures have reached the same as at the start and the temperature has been confirmed to be stable as defined in 5.7."

Delete in 6.3.2 the last sentence of the 7th paragraph.

Add at the end of 6.3.2 the following paragraph:

"Where no energy saving mode is available on the machine, the ready mode test shall take 16 hours."

Replace the text of 6.3.3 with the following:

"Ready-mode energy consumption is measured for the first 8 h of the test, e_r in kWh. Measurement commences immediately after the compressor starts in a refrigeration cycle

Automatic energy-saving mode energy consumption is measured from the beginning of the ninth hour until the end of the twentieth hour, e_s in kWh.

Recovery period energy consumption is measured from the beginning of the twenty-first hour until the temperature recovers to that at the start of the test (e_{rec} with duration t_{rec}). In addition, the energy consumption is recorded during a final 2 h to confirm the temperature stability, e_{fin} .

Record the energy consumption (e_r , e_s , e_{rec} and e_{fin}) and duration (4, 12, t_{rec} and 2) of each mode of the test in the test report (see Annex B)."

Replace the text of 6.4 with the following:

"The net volume of a compartment of the vending machine encompasses the volume in which the products directly available for vending are contained and the temperature controlled volume through which the products pass during the dispensing process expressed in litres and rounded to the nearest integer. For category 4 and 6 machines the net volume of the machine is the sum of the volumes of the two compartments.

The net volume does not include:

- the volume into which product is dispensed and is accessible to customers (delivery area) in the case that area is not temperature controlled;