



SLOVENSKI STANDARD

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Hladilniki in zamrzovalne omare za poklicno uporabo - Razvrstitev, zahteve in preskusni pogoji

Blast chillers and freezers cabinets for professional use - Classification, requirements and test conditions

Schnellkühl- und Schockfrostkabinen für den gewerblichen Gebrauch - Klassifizierung, Anforderungen und Prüfbedingungen

Cellules de refroidissement et congélateurs pour usage professionnel - Classification, exigences et conditions d'essai

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EUROPEAN STANDARD

EN 17032

NORME EUROPÉENNE

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ICS 97.130.20

English Version

Blast chillers and freezers cabinets for professional use - Classification, requirements and test conditions

Cellules de refroidissement et congélateurs pour usage
professionnel - Classification, exigences et conditions
d'essai

Schnellkühl- und Schockfrostkabinen für den
gewerblichen Gebrauch - Klassifizierung,
Anforderungen und Prüfbedingungen

This European Standard was approved by CEN on 22 October 2017.

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

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

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European foreword

This document (EN 17032:2018) has been prepared by Technical Committee CEN/TC 44 “Commercial and Professional Refrigerating Appliances and Systems, Performance and Energy Consumption”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by July 2018, and conflicting national standards shall be withdrawn at the latest by July 2018.

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

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements the ecodesign requirements of Commission Regulation (EU) No 2015/1095.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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

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EN 17032:2018 (E)**1 Scope**

This European Standard specifies the requirements for the construction, characteristics, performance including energy consumption of blast cabinet for professional used in commercial kitchens, hospitals, canteens, institutional catering and similar professional areas.

The appliances covered by this European Standard are intended to rapidly cool down hot foodstuffs up to a load capacity of 300 kg.

This European Standard applies to:

- blast chillers;
- blast freezers;
- multi-use blast chillers/freezers.

The following appliances are not covered:

- roll-in cabinet;
- pass-through cabinet;
- cabinets with remote condensing unit;

NOTE Specific requirements for roll-in cabinets, pass-through cabinets and cabinets with remote condensing unit are under discussion.

- cabinets with water cooled condenser;
- blast chilling and freezing tunnels;
- continuous blast-chilling and blast-freezing equipment;
- bakery combined freezing and storage units.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1**blast cabinet**

insulated refrigerating appliance primarily intended to rapidly cool down hot foodstuff

3.1.1**blast chiller**

blast cabinet intended to rapidly cool down hot foodstuff to below +10 °C

3.1.2

blast freezer

blast cabinet intended to rapidly cool down hot foodstuff to below $-18\text{ }^{\circ}\text{C}$

Note 1 to entry: Blast freezers are also able to operate as blast chillers.

Note 2 to entry: Different full load capacity may be claimed depending on the mode of operation for chilling or freezing considered.

3.2

built-in condensing unit

appliance in which the refrigeration unit is an integral part of the cabinet

3.3

remote condensing unit

appliance in which the compressors, condensers and liquid receivers (when required) are not supplied with the cabinet

3.4

reach-in blast cabinet

appliance which can accommodate shelves, trays or pans

3.5

roll-in blast cabinet

appliance intended to be loaded with trolleys with shelves, trays or pans designed to be introduced as such in the compartment

3.6

pass-through blast cabinet

equipment in which the cabinet can be loaded and unloaded from both sides

3.7

test food

reference food used for the tests

3.8

full load capacity

weight of the test food, in kg, as declared by the manufacturer, that can be processed in the appliance for testing its performance

3.9

reference temperature cycle

cycle from which temperature in $^{\circ}\text{C}$, down to which temperature in $^{\circ}\text{C}$, the test food is intended to be cooled and in how many minutes

Note 1 to entry: In Regulation 2015/1095/EU the term reference temperature cycle is reported as standard temperature cycle.

3.10

energy consumption

ratio of total energy measured in kWh per kg of test food per reference temperature cycle, rounded to four digits after the comma

EN 17032:2018 (E)**3.11****test pan**

container made by stainless steel according to EN 631-1

3.12**operating conditions**

conditions which exist when the cabinet, including all permanently located accessories, has been set up to the program specified by the manufacturer in order to achieve final reference temperature cycle

4 Requirements**4.1 Reference temperature and time of test food**

Blast chillers shall bring the test food from an initial reference temperature of +65 °C to a final temperature of +10 °C within a test time of 120 min.

Blast freezers shall bring the test food from an initial reference temperature of +65 °C to a final temperature of -18 °C within a test time of 270 min.

For blast chillers, the temperature of the coldest M-pan, measured at the end of the test, shall be higher than -1 °C.

NOTE In some European countries specific hygiene requirements apply, in addition.

4.2 Test time

The test time is the time between:

- T_0 , time when the average temperature of the test food in the M-pans is equal to the initial reference temperature; and
- T_f , time when the temperature of the test food in all M-pans reaches the final reference temperature.

The measured time is rounded to the full minute.

5 Test conditions**5.1 Test room**

Tests shall be carried out in a test room capable of maintaining a temperature of $30 \text{ }^{\circ}\text{C} \begin{smallmatrix} -1 \\ +5 \end{smallmatrix} \text{ }^{\circ}\text{C}$ to one decimal place.

The measuring point shall be located opposite to the hinges of the door of the blast cabinet, 500 mm upstream of the blast cabinet, in line with the front of the cabinet at a vertical height that is half the blast cabinet height (including cabinet feet and fixings).

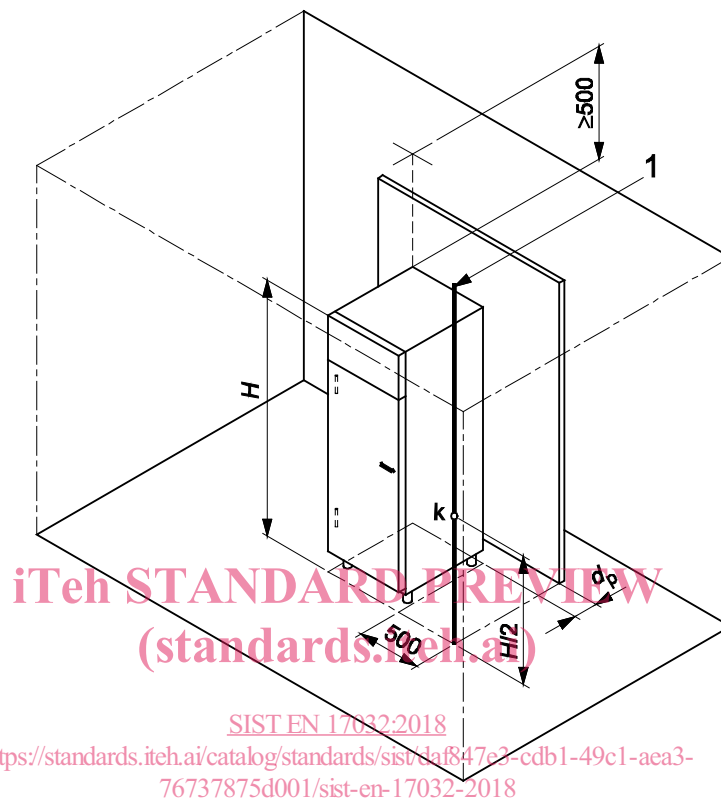
No specific requirement on relative humidity is applicable.

5.2 Blast cabinet selection, installation and positioning within the test room

Each blast cabinet intended to be tested, unless a prototype, shall be selected from stock or routine production and shall be representative as to construction and adjustment. The blast cabinet, including all components required for normal operation, shall be assembled, set up and sited as it would be installed in service as far as practicable and in accordance with the manufacturer's instructions. All permanently located accessories required for normal use shall be in their respective places. Blast

cabinets shall be placed against a wall of the test room or a vertical partition having a length of at least 1 m on the side of the test room temperature measuring point, 0,5 m on the opposite side and an height of at least 0,5 m more than the cabinet under testing at a distance from the rear as specified in the instructions for use (see Figure 1).

Dimensions in millimetres



Key

- 1 climate measuring line
- H overall height of the cabinet including feet
- k climate measuring point detecting temperature
- dp clearance between rear wall of test room and vertical position specified by the manufacturer (if used)

Figure 1 — Test room temperature measuring point and positioning of the cabinet

5.3 Blast cabinet operation

The blast cabinet shall be operated at operating conditions defined in the instructions for use.

5.4 Power supply

The blast cabinet shall be supplied at the voltage and frequency marked on the rating plate. In case a range of voltage is indicated, the cabinet is supplied at 230 V or 400 V and 50 Hz. The tolerance on power supply shall be $\pm 2\%$ for voltage and $\pm 1\%$ for frequency, in relation to the nominal values given on the marking plate or otherwise stated.

5.5 Instruments, measuring equipment and measuring accuracy

All measurements shall be carried out with instruments that are subjected to a due calibration program.

The following measurement accuracies shall be met: