

This document is a preview generated by EVS

Aerospace series - ECO efficiency of catering equipment - Part 03: Chilling equipment

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 4855-03:2025 sisaldab Euroopa standardi EN 4855-03:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 29.10.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 4855-03:2025 consists of the English text of the European standard EN 4855-03:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 29.10.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
--	---

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 49.020

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele. Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation: Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 4855-03

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2025

ICS 49.020

Supersedes EN 4855-03:2020

English Version

Aerospace series - ECO efficiency of catering equipment - Part 03: Chilling equipment

Série aérospatiale - Efficacité du matériel de
restauration - Partie 03 : Matériel réfrigérant

Luft- und Raumfahrt - ECO Effizienz von
Cateringgeräten - Teil 03: Kühlgeräte

This European Standard was approved by CEN on 18 August 2025.

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.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

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

Contents	Page
European foreword	3
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Symbols and abbreviations	7
5 General test conditions	8
5.1 Measurements and calculations	8
5.2 Environmental conditions	8
5.3 Power supply and voltage	8
5.4 Measurement equipment	8
5.5 Test set up	8
5.6 Test medium	8
5.7 General conditions for weight measurement	8
5.8 Operating conditions	9
5.8.1 Conditions for test for all chilling equipment	9
5.8.2 Conditions for additional test for chilling with freeze mode	9
6 Test procedures	9
6.1 Preparation of the EUT	9
6.2 Measurement of the storage volume	9
6.3 Energy consumption test for all chilling equipment	9
6.4 Additional energy consumption test for chilling equipment with freeze mode	10
7 Evaluation and calculation	10
7.1 General	10
7.2 Calculation of energy consumption index (ECI)	10
7.3 Calculation of performance index (PI)	12
7.4 Test report	12
7.5 Calculation sheet	13

European foreword

This document (EN 4855-03:2025) has been prepared by ASD-STAN.

After enquiries and votes carried out in accordance with the rules of this Association, this document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

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 April 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

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 supersedes EN 4855-03:2020.

This document includes the following significant technical changes with respect to EN 4855-03:2020:

- removed “Only galley chilling equipment with a freeze function will be considered” from the scope;
- correction of the formula for the kerosene consumption due to the correction of the formula in EN 4855-01;
- removed “For this energy consumption index, only equipment with a freeze function will be considered.” from note in 3.2;
- added measurement of the storage volume to 5.1;
- clarified test medium in 5.6;
- rewritten operating conditions to allow for units without freeze mode in 5.8;
- reduced total amount of storage capacity filled by test medium in 6.1 from 100 % of storage volume to 30 % allowing for air to circulate between test media and provide for realistic load situation;
- swapped 6.2 and 6.3;
- clarified the specification of end of pull-down time in 6.3;
- specification of usable inner volume according to actual volume rather than number of media insertable in 7.2;
- reestablishment of reference values required due to procedure changes;
- updated values for scaled reference kerosene consumption in 7.2;
- updated values for reference inner equipment volume and reference pull-down time in 7.3.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

This document is a preview generated by EVS

Introduction

During aircraft operations the food storage in the cabin is mandatory to maintain the catering on board. There exist different equipment types to cool, freeze or chill any food or drinks. To meet the target to determine an energy efficiency index for galley chilling equipment (freezers, refrigerators and beverage chillers) the purpose of this document is to standardize the test procedure and efficiency calculations for this equipment.

This document is a preview generated by EVS

1 Scope

This document specifies a test procedure to identify performance characteristics and a weight rating of a galley chilling equipment used on aircraft. Furthermore, it specifies the calculation procedure to determine an energy consumption index and a performance index. The effect of the chilling equipment on food quality is not addressed in this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 4855-01:2025, *Aerospace series — ECO efficiency of catering equipment — Part 01: General conditions*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 catering equipment

equipment installed in an aircraft to provide or support food or beverage service

Note 1 to entry: Includes ovens, beverage makers, water heaters, chilling equipment, trash compactors and espresso makers.

[SOURCE: EN 4855-01:2025, 3.1]

3.2 galley chilling equipment

equipment installed in the galley in order to cool beverage or food and/or provide internal temperatures below 0 °C for freezing purposes

Note 1 to entry: The three functionalities freeze, refrigerate and beverage chill can be realized separately or as different functions in one single unit.

3.2.1 freezer

equipment with a cavity held at or below 0 °C for preserving and long-term storing of perishable food

Note 1 to entry: Standard temperature for freezers is -18 °C.

3.2.2 refrigerator

equipment with a cavity to store food or other substances at a low temperature

Note 1 to entry: Standard temperature for refrigerators is 4 °C.