Packaged refrigerating units for walk-in cold rooms - Classification, performance and energy consumption testing

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17432:2021 sisaldab Euroopa standardi EN 17432:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 17432:2021 consists of the English text of the European standard EN 17432:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 29.09.2021.	Date of Availability of the European standard is 29.09.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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

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EUROPEAN STANDARD

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English Version

Packaged refrigerating units for walk-in cold rooms - Classification, performance and energy consumption testing

Groupes frigorifiques prêts à monter pour chambres froides - Classification, performance et essai de consommation d'énergie

Kälteaggregate für begehbare Kühlräume - Klassifikation, Prüfung der Leistung und des Energieverbrauchs

This European Standard was approved by CEN on 21 June 2021.

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

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

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European foreword

This document (EN 17432:2021) 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of an identical text or by endorsement, at the latest by March 2022, and conflicting national standards shall be withdrawn at the latest by March 2022.

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 Standardization Request given to CEN by the European Commission and the European Free Trade Association.

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 organisations 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, Turkey and the United Kingdom.

Introduction

This document was developed in order to provide a suitable method of performance testing of packaged refrigerating units for stationary cold room applications.

This is the first edition of this document. It includes testing only in so-called “dry conditions”. That means, the evaporator does not show any ice formation during the test. Although it is well-known, that such conditions do not represent the typical situation in the practical use of the packaged refrigerating units, this edition of the document focusses on the description of a test procedure providing reliable test results, which can be used to compare the performance of different models/types of packaged refrigerating unit.

In order to keep the test procedure in this document practically oriented, tests under so-called “wet conditions” as well as taking defrost periods into account will be a future Work Item of the responsible working group. The aim is to integrate such tests in a later revision of this document.

This document reflects the current market situation which shows that only refrigerating units without integrated pump for the heat transfer medium on the exterior heat exchanger are offered.

1 Scope

This document specifies classification criteria, test conditions and test procedures for performance testing of packaged refrigerating units for stationary cold room applications. This includes ductless units for cold storage applications at medium temperatures (MT) and low temperatures (LT) in either compact or split designs, fitted with electrically driven compressors, which work according to the vapour compression cycle.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
packaged refrigerating unit
functional unit incorporating a complete factory-made refrigerating system, mounted in a suitable frame and/or enclosure, that is fabricated and transported complete, or in two or more sections and in which no refrigerant-containing parts are connected on site other than by isolation valves, such as companion valves, and by interconnecting piping as defined by the manufacturer

Note 1 to entry: A packaged refrigerating unit incorporates at least one refrigerant circuit, and can incorporate one or more heat transfer circuits.

Note 2 to entry: The terms “factory-made” and “refrigerating system” are defined in EN 378-1.

3.2
compact unit
packaged refrigerating unit, that has been assembled, filled ready for use, and is installed without the need for connecting any refrigerant-containing parts

3.3
split unit
packaged refrigerating unit, comprising one unit providing cooling to the cold room and one unit used for condensing the refrigerant

3.4
factory made
manufactured at a dedicated production location under control of a recognized quality system

Note 1 to entry: Assembling in this context means manufacturing.

[SOURCE: EN 378-1:2016, 3.8.5, modified — The present Note 1 to entry was added.]