

SOOJUSVAHETID. VEEPÕHISED RUUMI  
PUHURKONVEKTORID. TEHNILISTE NÄITAJATE  
TESTIMISE PROTSEDUURID

Heat exchangers - Hydronic room fan coil units - Test  
procedures for establishing the performance

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 1397:2021 sisaldab Euroopa standardi EN 1397:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 1397:2021 consists of the English text of the European standard EN 1397:2021.
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English Version

## Heat exchangers - Hydronic room fan coil units - Test procedures for establishing the performance

Échangeurs thermiques - Ventilo-convecteurs à eau -  
Procédures d'essai pour la détermination des  
performances

Wärmeübertrager - Wasser-Luft-  
Ventilatorconvektoren - Prüfverfahren zur  
Leistungsfeststellung

This European Standard was approved by CEN on 23 May 2021.

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

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

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## European foreword

This document (EN 1397:2021) has been prepared by Technical Committee CEN/TC 113 “Heat pumps and air conditioning units”, the secretariat of which is held by UNE.

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of an identical text or by endorsement, at the latest by March 2022, and conflicting national standards shall be withdrawn at the latest by March 2022.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 supersedes EN 1397:2015.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

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

This document was prepared in the framework of the Commission Regulation (EU) 2016/2281 of 30 November 2016 implementing Directive 2009/125/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-related products, with regard to ecodesign requirements for air heating products, cooling products, high temperature process chillers and fan coil units.

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.

## 1 Scope

This document applies to hydronic fan coil units (FCU) as factory-made single assemblies which provide the functions of cooling and/or heating but do not include the source of cooling or heating.

This document covers both air free delivery and air ducted units with a maximum external static pressure due to duct resistance of 120 Pa max.

This document applies to all types of fan speed control of a fan coil unit (variable speed, multispeed).

This document deals with the cooling and heating functions of the FCU considered as an emitter for cooling/heating of a room/space. It does not cover any ventilation function of the unit.

If the FCU can also provide fresh air, this function is not considered and the fresh air inlet closed during testing.

This document provides a method for the determination of the thermal performance of fan coil units in standard conditions, for the use with hot or chilled water or water mixtures. The test procedures given in this standard may additionally be used for determining performance at other conditions.

It also provides the method for the determination of the air flow rate supplied by the fan coil unit.

This document does not cover the rating of heating or cooling from direct expansion coils or heating from electric resistance elements.

This document does not cover acoustic performance of fan coil units which is dealt with in EN 16583.

It is not the purpose of this document to specify the tests used for production or field testing.

NOTE For the purpose of remaining clauses, the term “unit” is used to mean “fan coil unit” as defined in 3.1.

## 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 ISO 5801:2017, *Fans - Performance testing using standardized airways (ISO 5801:2017)*

## 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 <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **hydronic fan-coil unit**

factory-made single assembly which provides one or more of the functions of forced circulation of air, heating, cooling, dehumidification and filtering of air, but which does not include the source of heating or cooling

Note 1 to entry: This device includes at least a liquid-to-air heat exchanger and a fan, and may be designed for free or ducted intake air and/or for free or ducted delivery of supply air.