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BS EN 1397:2015

Incorporating corrigendum June 2016



BSI Standards Publication

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

bsi.

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This British Standard is the UK implementation of EN 1397:2015, incorporating corrigendum June 2016. It supersedes BS EN 1397:1999 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RHE/17, Testing of air conditioning units.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Published by BSI Standards Limited 2016

ISBN 978 0 580 95092 6

ICS 27.060.30

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 August 2015.

Amendments/corrigenda issued since publication

Date	Text affected
31 July 2016	Implementation of CEN corrigendum June 2016: Subclause 7.5.3, Formula (4) modified

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EUROPÄISCHE NORM

ICS 27.060.30

Incorporating corrigendum June 2016
Supersedes EN 1397:1998

English Version

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

Échangeurs thermiques - Ventilateurs-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 3 July 2015.

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 foreword

This document (EN 1397:2015) has been prepared by Technical Committee CEN/TC 113 "Heat pumps and air conditioning units", the secretariat of which is held by AENOR.

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 February 2016 and conflicting national standards shall be withdrawn at the latest by February 2016.

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

This document supersedes EN 1397:1998.

The main modifications with regard to the previous edition include:

- modification of the scope, with the inclusion of ducted units < 120 Pa;
- revision of test conditions and technical requirements to be consistent with CEN/TC 113 standards;
- revision of test methods;
- addition of an informative annex for measurement of the inlet air flow rate for non-ducted units;
- deletion of the clause about sound power level measurement that will be dealt with in EN 16583.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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1 Scope

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

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

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

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

It is not the purpose of this standard 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5801, *Industrial fans — Performance testing using standardized airways*

3 Terms and definitions

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

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.