

**Soojusvahetid. Talitlusandmete  
kindlaksmääramise toimingud õhk-õhk-  
tüüpi soojuse ja lõõrigaaside soojuse  
korduskasutusseadmete puhul**

Heat exchangers - Test procedures for establishing  
performance of air to air and flue gases heat  
recovery devices

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 308:2000 sisaldab Euroopa standardi EN 308:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 308:2000 consists of the English text of the European standard EN 308:1997.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> See Euroopa standard esitab meetodid õhk-õhk-tüüpi soojuse korduskasutusseadmete või hoonete küttesüsteemi lõõrigaaside soojuse korduskasutusseadmete (välja arvatud protsess-protsess tüüpi seadmed) laboratoorseks testimiseks hindamisandmete saamise eesmärgil. Standard esitab testimisnõuded ja toimingud ning määrab testimisel vajalikud sisendväärtused, et kontrollida tootja poolt esitatud talitlusandmeid.</p>	<p><b>Scope:</b></p>
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**Võtmesõnad:** mõõtmine, määratlused, regeneratiivkütteseadmed, soojusvahetid, soojusülekanne, termodünaamilised omadused, testid

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Descriptors: HVAC, heat exchangers, heat recovery, testing.

**English version**

**Heat exchangers**

Test procedures for establishing performance of air to air  
and flue gases heat recovery devices

Echangeurs thermiques – Procédures  
d'essai pour la détermination de la perfor-  
mance des récupérateurs de chaleur air/air  
et air/gaz

Wärmeaustauscher – Prüfverfahren zur  
Bestimmung der Leistungskriterien von  
Luft/Luft- und Luft/Abgas-Wärmerück-  
gewinnungsanlagen

This European Standard was approved by CEN on 1996-12-27.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

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## **Foreword**

This European Standard has been prepared by Technical Committee CEN/TC 110 "Heat exchangers", the secretariat of which is held by BSI.

This European Standard supersedes ENV 308:1990.

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 1997, and conflicting national standards shall be withdrawn at the latest by July 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

This European Standard is one of a series of European Standards dedicated to heat exchangers.

## 1 Scope

This European Standard specifies methods to be used for laboratory testing of air-to-air heat recovery devices or those recovering heat from flue gases of heating appliances in buildings (except process-process applications) to obtain rating data. It gives test requirements and procedures for performing such tests and specifies input criteria required for tests to verify performance data given by the manufacturer.

For the purposes of this standard, the term exhaust air may also be taken to mean the products of combustion.

This European Standard is intended to be used as a basis for testing heat recovery devices for HVAC-systems, which as specified in prEN 247 consist of the heat exchanger itself installed in a casing having the necessary air duct connecting elements and in some cases the fans and pumps, but without any additional components of the HVAC-system.

This European Standard is applicable to the following categories of heat exchangers:

- Category I    Recuperators
- Category II    With intermediary heat transfer medium
  - Category IIa - without phase-change
  - Category IIb - with phase-change (heat pipe,...)
- Category III    Regenerators (containing accumulating mass)
  - Category IIIa - non hygroscopic
  - Category IIIb - hygroscopic

Heat recovery devices with exchangers and intermediary heat transfer medium without phase-change (category IIa) are to be tested as one unit including pump and pipe system between the coils.

This European Standard prescribes test methods for determining:

- a) the external leakage;
- b) the internal leakage of exhaust air to the supply-air within the device at a given pressure difference between air ducts, for recovery devices of categories I and II;
- c) the carry-over of exhaust air to the supply air in recovery devices of category III;
- d) the temperature and humidity ratios;
- e) the pressure drop of exhaust-air and supply-air sides.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

prEN 247	Heat exchangers - Terminology
prEN 305	Heat exchangers - Definitions of performance of heat exchangers and the general test procedure for establishing performance of all heat exchangers
prEN 306	Heat exchangers - Methods of measuring parameters necessary for establishing the performance
prEN 307	Heat exchangers - Guidelines to prepare installation, operating and maintenance instructions required to maintain the performance of each type of heat exchanger