Soojusvahetid. Soojusvahetite toimimise määratlemine ja kõigi soojusvahetite talitlusandmete kindlaksmääramise üldtoimingud

Heat exchangers - Definitions of performance of heat exchangers and the general test procedure for establishing performance of all heat exchangers

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 305:1999 sisaldab Euroopa standardi EN 305:1997 ingliskeelset teksti. Käesolev dokument on jõustatud 12.12.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 305:1999 consists of the English text of the European standard EN 305:1997. This document is endorsed on 12.12.1999 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See Euroopa standard esitab üldmõisted ja arvutused, mida kasutatakse soojusvahetite toimimise määratlemisel, sisaldades ka asjassepuutuva teooria ja testimise üldprotseduuri.	**Scope:**

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Võtmesõnad: määratlused, soojusvahetid, soojusülekanne, teave, termodünaamilised omadused, testid

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Descriptors: HVAC, heat exchangers, performance, testing.

English version

Heat exchangers

Definitions of performance of heat exchangers and the general test procedure for establishing performance of all heat exchangers

Echangeurs thermiques – Définitions de la performance des échangeurs thermiques et procédure générale d'essai pour la détermination de la performance de tous les échangeurs thermiques

Wärmeaustauscher – Begriffe und allgemeine Festlegungen bei der Prüfung zur Leistungsbestimmung

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

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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.

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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 305:1990.

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.

This standard provides the manufacturer with information for presenting performance characteristics for a heat exchanger in varying operating situations. These characteristics form the basis for determination of the exchanger's condition both when it is new and after having been in operation for some time.

This standard also supplies the purchaser of the heat exchanger with the information necessary for specifying and selecting the product which best meets his needs.

This standard is also intended to be used in connection with type approval testing to serve as a source of information for certification if required.

1 Scope

This European Standard specifies general terms and calculations used in determining performance of heat exchangers including related theory and general test procedure.

This European Standard applies to heat exchangers classified according to the general arrangement of heat transfer specified by heat transfer surface types of 4.1 and 4.2 of prEN 247:1996.

This European standard applies when referenced by the various branch application standards. The specific application European standards shall be the prime reference documents.

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 below. For dated references, any subsequent amendments or revisions to these publications only apply to this European Standard when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

prEN 247:1996 Heat exchangers - Terminology

3 Symbols and abbreviations

3.1 Roman letters

Symbol	Quantity	Units
A	heat transfer surface area	m^2
c	specific heat capacity	J/(kg · K)
C	"cleanliness" factor	-
F	Correction factor for LMTD	-
h	specific enthalpy	J/kg
H	enthalpy	J
k	overall heat transfer coefficient	$W/(m^2 \cdot K)$
LMTD	Logarithmic Mean Temperature Difference	K
NTU	Number of heat Transfer Units	-
p	Pressure	Pa