This is a free page sample. Access the full version online.

National Standards Authority of Ireland

STANDARD

I.S. EN 13487:2004

ICS 17.140.20
27.060.30

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Tel: (01) 807 3838

HEAT EXCHANGERS - FORCED CONVECTION AIR COOLED REFRIGERANT CONDENSERS AND DRY COOLERS - SOUND MEASUREMENT

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on:

March 25, 2004

NO COPYING WITHOUT NSAI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

© NSAI 2004

Price Code H

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

This is a free page sample. Access the full version online.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13487

December 2003

ICS 17.140.20; 27.060.30

English version

Heat exchangers - Forced convection air cooled refrigerant condensers and dry coolers - Sound measurement

Echangeurs thermiques - Aérocondenseurs à convection forcée et batterie froide - Mesurage du bruit

Wärmeaustauscher - Ventilatorbelüftete Kältemittelverflüssiger und Trockenkühltürme - Schallmessung

This European Standard was approved by CEN on 1 October 2003.

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 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 Management Centre has the same status as the official versions.

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

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

© 2003 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 13487:2003 E

This is a free page sample. Access the full version online.

Contents

page

Foreword ... 3

Introduction ... 4

1 Scope ... 5

2 Normative references ... 5

3 Terms and definitions ... 6

4 Instrumentation ... 7

5 Manufacturer's data ... 7

6 Test conditions ... 8
6.1 Test methods ... 8
6.2 Operating condition of the test subject ... 8
6.3 Ambient conditions ... 8
6.4 Arrangement of measuring points ... 8
6.4.1 General ... 8
6.4.2 Apparatus with vertical air throw and draw through arrangement ... 8
6.4.3 Apparatus with horizontal air throw and draw through arrangement ... 9
6.4.4 Special apparatus ... 9

7 Test procedures ... 9
7.1 Measurement of sound pressure / intensity levels ... 9
7.2 Measurement of the background noise ... 10
7.3 Data to be recorded ... 10

8 Calculations ... 10
8.1 Correction value for the background noise ... 10
8.2 Correction value for the influence of the ambient ... 10
8.3 Calculation of sound data ... 11
8.3.1 A-weighted sound power level ... 11
8.3.2 Average sound pressure level on the partial measuring areas a to e ... 11
8.3.3 Sound power level of the test subject ... 11

9 Conversion to nominal fan speed ... 12

10 Test report ... 12

Annex A (normative) **Positions of measuring points for vertical air throw** ... 13
A.1 Example with one fan ... 13
A.2 Example with six fans ... 14

Annex B (normative) **Positions of measuring points for horizontal air throw** ... 15
B.1 Example with one fan ... 15
B.2 Example with six fans ... 16

Annex C (normative) **Standard method for calculating the sound pressure level** ... 17

Annex D (normative) **Deviations from the test subject** ... 18
D.1 Model ranges composed of modules ... 18
D.2 Dimensions of the heat exchanger coil ... 18

Annex E (informative) **Directivity** ... 19
E.1 General ... 19
E.2 Definition ... 19
E.3 Calculation of the directivity number ... 19

Bibliography ... 20

This is a free page sample. Access the full version online.

Foreword

This document EN 13487:2003 has been prepared by Technical Committee CEN/TC 110, “Heat exchangers”, the secretariat of which is held by BSI.

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 June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

Annexes A, B, C and D are normative. Annex E is informative.

This document contains a bibliography.

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

This is a free page sample. Access the full version online.

Introduction

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

This standard provides information for assessing and presenting the acoustic characteristics of heat exchangers in operation.

This standard also provides information necessary for specifying and selecting the product which best suits the needs of the purchaser.

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation