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Irish Standard
I.S. EN 1048:2014

Heat exchangers - Air cooled liquid coolers ('dry coolers') - Test procedures for establishing the performance

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1048

August 2014

ICS 27.060.30; 27.200

Supersedes EN 1048:1998

English Version

Heat exchangers - Air cooled liquid coolers ('dry coolers') - Test procedures for establishing the performance

Echangeurs thermiques - Refroidisseurs de liquide à convection forcée ('aéroréfrigérant sec') - Procédures d'essai pour la détermination de la performance

Wärmeübertrager - Luftgekühlte Flüssigkeitskühler ('Trockenkühltürme') - Prüfverfahren zur Leistungsfeststellung

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Foreword

This document (EN 1048:2014) has been prepared by Technical Committee CEN/TC 110 “Heat exchangers”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2015, and conflicting national standards shall be withdrawn at the latest by February 2015.

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 1048:1998.

The main changes with respect to the previous edition are listed below:

a) Clause 3 “Terms and definitions” is modified;

b) The revised standard takes into account the current state of the art.

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Introduction

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

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1 Scope

This European Standard applies to remote forced convection air cooled liquid coolers, within which no change in the liquid phase occurs.

This European Standard does not apply to liquid coolers, designed primarily for installation within the machinery compartment of packaged products.

Its purpose is to establish uniform methods to test and ascertain the following:

— Product identification;

— Capacity;

— Air flow rate;

— Liquid side pressure drop;

— Energy requirements.

This European Standard does not cover technical safety aspects.

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.

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

3 Terms and definitions

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

3.1
forced convection air cooled liquid cooler: “dry cooler”
self contained system, that cools a single phase liquid by rejecting sensible heat via a heat exchanger to air that is mechanically circulated by integral fan(s)

Note 1 to entry: In the following, “forced convection air cooled liquid cooler” is referred to as “dry cooler”.

3.2
liquid
working fluid circulated through the cooling system, which remains in liquid phase during the absorption and rejection of heat during the test

Note 1 to entry: The liquid can be any fluid which can be defined and that has known physical properties.

3.3
capacity
cooling effect on the liquid passing though the dry cooler

Note 1 to entry: It is defined as the product of the liquid mass flow rate and the difference between the enthalpies at the inlet and outlet connections of the dry cooler.

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