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Refrigerating systems and heat pumps - Liquid level indicating devices - Requirements, testing and marking

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/17

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Podľa zákona č. 264/1999 Z. z. o technických požiadavkách na výrobky a o posudzovaní zhody a o zmene a doplnení niektorých zákonov v znení neskorších predpisov sa slovenská technická norma a časti slovenskej technickej normy môžu rozmnožovať alebo rozširovať len so súhlasom slovenského národného normalizačného orgánu.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12178

November 2016

ICS 27.080; 27.200

Supersedes EN 12178:2003

English Version

**Refrigerating systems and heat pumps - Liquid level
indicating devices - Requirements, testing and marking**

Systèmes de réfrigération et pompes à chaleur -
Indicateurs de liquide - Exigences, essais et marquage

Kälteanlagen und Wärmepumpen -
Flüssigkeitsstandanzeiger - Anforderungen, Prüfung
und Kennzeichnung

This European Standard was approved by CEN on 8 August 2016.

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 COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 12178:2016) has been prepared by CEN/TC 182, “Refrigerating systems, safety and environmental requirements”, 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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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 12178:2003.

EN 12178:2016 includes the following significant technical changes with respect to EN 12178:2003:

- a) Introduction of the safety factors in 7.2.1;
- b) Harmonisation of Annex ZA with Directive 2014/68/EU.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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.

1 Scope

This European Standard specifies safety requirements, safety factors, test methods, test pressures and marking of liquid level indicating devices, referred to throughout this standard as “level indicators”, for use in refrigerating systems and heat pumps.

It applies to devices connected to refrigerant vessels (e.g. on high-pressure liquid receivers, intercoolers and low-pressure receivers) and to devices connected to other parts of a refrigerating system (e.g. oil-level sight glasses on a compressor).

This European Standard applies to those types of level indicators that are direct and indirect reading devices (e.g. sight glasses, frosting tubes), and includes electrical and pneumatic indicators.

This European Standard describes the procedure to be followed when designing (by calculation or by an experimental design method) level indicator parts subjected to pressure as well as the criteria to be used for the selection of materials.

This European Standard applies to the design of level indicators with respect to pressure containment and describes methods by which the reduced impact values at lower temperatures may be taken into account in a safe manner.

It also gives guidance on some aspects of application and installation.

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 378-1, *Refrigerating systems and heat pumps — Safety and environmental requirements — Part 1: Basic requirements, definitions, classification and selection criteria*

EN 378-2, *Refrigerating systems and heat pumps — Safety and environmental requirements — Part 2: Design, construction, testing, marking and documentation*

EN 378-4, *Refrigerating systems and heat pumps — Safety and environmental requirements — Part 4: Operation, maintenance, repair and recovery*

EN 764-1, *Pressure equipment — Part 1: Vocabulary*

EN 12284:2003, *Refrigerating systems and heat pumps — Valves — Requirements, testing and marking*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

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