

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

The European Standard EN 12178:2003 has the status of a  
British Standard

ICS 27.080; 27.200

# National foreword

This British Standard is the official English language version of EN 12178:2003.

The UK participation in its preparation was entrusted to Technical Committee RHE/18, Refrigeration safety, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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### Summary of pages

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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 3 November 2003.

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## Foreword

This document (EN 12178:2003) 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of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

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 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.

## 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 separators) 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

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 (including amendments).

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.*

prEN 764-1, *Pressure equipment — Terminology — Part 1: Pressure, temperature, volume, nominal size.*

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

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989).*

EN ISO 6708:1995, *Pipework components — Definition and selection of DN [nominal size] (ISO 6708:1995).*

ISO 7268, *Pipe components - Definition of nominal pressure.*