

Heat meters —

Part 4: Pattern approval tests

The European Standard EN 1434-4:1997, with the incorporation of amendment A1:2002, has the status of a British Standard

ICS 17.200.10

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee CPI/30, Measurement of fluid flow in closed conduits, to Subcommittee CPI/30/7, Volume flowrate methods, upon which the following bodies were represented:

- British Gas
- GAMBICA
- Petrol Pump Manufacturers' Association
- Society of British Gas Industries
- Water Services Association of England and Wales

The following bodies were also represented in the drafting of the standard, through a panel:

- Building Services Research and Information Association
- Combined Heat and Power Association
- Department of the Environment (Building Research Establishment)
- Department of Trade and Industry (National Weights and Measures Laboratory)
- National Engineering Laboratory

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National foreword

This part of BS EN 1434 has been prepared by Subcommittee CPI/30/7, and is the English language version of EN 1434-4:1997, including amendment A1:2002, published by the European Committee for Standardization (CEN). The six parts of BS EN 1434 supersede, BS 7234-1, BS 7234-2 and BS 7234-3, which are withdrawn.

The start and finish of text introduced or altered by CEN amendment is indicated in the text by tags A1 A1. Tags indicating changes to text carry the number of the amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 22, an inside back cover and a back cover.

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English version

Heat meters — Part 4: Pattern approval tests

(includes amendment A1:2002)

Compteurs d'énergie thermique —
Partie 4: Essais en vue de l'approbation de
modèle
(inclut l'amendement A1:2002)

Wärmezähler —
Teil 4: Prüfungen für die Bauartzulassung
(enthält Änderung A1:2002)

This European Standard was approved by CEN on 1997-01-27 and amendment A1 was approved by CEN on 2002-07-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 176, Heat meters, the Secretariat of which is held by DS.

The other parts are:

- *Part 1: General requirements;*
- *Part 2: Constructional requirements;*
- *Part 3: Data exchange and interfaces;*
- *Part 5: Initial verification tests;*
- *Part 6: Heat meter installation, commissioning, operational monitoring and maintenance.*

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 August 1997, and conflicting national standards shall be withdrawn at the latest by August 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.

Foreword to amendment A1

This document to EN 1434-4:1997/A1:2002 has been prepared by Technical Committee CEN/TC 176, Heat meters, the Secretariat of which is held by DS.

This amendment to the 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 March 2003, and conflicting national standards shall be withdrawn at the latest by March 2003.

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

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1 Scope

A1 This European Standard applies to heat meters, that is to instruments intended for measuring the heat which, in a heat-exchange circuit, is absorbed or given up by a liquid called the heat-conveying liquid. The meter indicates the quantity of heat in legal units.

Electrical safety requirements are not covered by this standard.

Pressure safety requirements are not covered by this standard.

Surface mounted sensors are not covered by this standard.

Part 1 specifies general requirements. **A1**

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.

EN 1434-1:1997, *Heat meters — Part 1: General requirements*.

ENV 50140, *Electromagnetic compatibility — Basic immunity standard — Radiated radio-frequency electromagnetic field immunity test*.

EN 55022, *Limits and methods of measurement of radio disturbance characteristics of information technology equipment*.
(CISPR 22:1993)

EN 60068-2-1, *Environmental testing — Part 2: Tests — Test A: Cold*.
(IEC 68-2-1:1990)

EN 60068-2-2, *Basic environmental testing procedures — Part 2: Tests — Test B: Dry heat*.
(IEC 68-2-2:1974)

EN 61000-4-2, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 2: Electrostatic discharge immunity test — Basic EMC publication*.

EN 61000-4-4, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 4: Electrical fast transient/burst immunity test — Basic EMC publication*.

EN 61000-4-3, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 3: Radiated, radio-frequency, electromagnetic field immunity test*.
(IEC 1000-4-3:1995 modified)

EN 61000-4-11, *Electromagnetic compatibility (EMC) — Part 4: Testing and measurement techniques — Section 11: Voltage dips, short interruption and voltage variations immunity tests*.
(IEC 1000-4-11:1994)

IEC 68-2-30, *Environmental testing — Part 2: Tests — Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)*.

EN 60751:1995, *Industrial platinum resistance thermometer sensors*.
(IEC 751:1983)

ISO 4064-3:1983, *Measurement of water flow in closed conduits — Meters for cold potable water — Part 3: Test methods and equipment*.

3 General

The procedure shall ascertain that the pattern conforms to the metrological requirements of this standard. In addition to the checking of the documentation (Clause 7) and the comparison of the pattern with the metrological requirements of this standard, the tests in Clause 6 shall be performed.