Soojusarvestid. Osa 2: Konstruktsiooninõuded

Heat meters - Part 2: Constructional requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1434-2:2007 sisaldab Euroopa standardi EN 1434-2:2007 ingliskeelset teksti. Käesolev dokument on jõustatud 30.03.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1434-2:2007 consists of the English text of the European standard EN 1434-2:2007. This document is endorsed on 30.03.2007 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See Euroopa standard kehtib soojusarvestite kohta; nende seadmetega mõõdetakse seda soojushulka, mida soojusvahetustsüklis neelab või annab ära soojust edasikandev vedelik. Soojusarvesti näitab soojuse kogust ametlikult kehtivates ühikutes. See standard ei käsitle elektriohutuse nõudeid. Standardisse ei ole veel lülitatud pindmise temperatuurisensoriga arvesteid. Osa 2 määrab kindlaks konstruktsiooninõuded.	**Scope:** This European Standard specifies the constructural requirements and 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 heat meter indicates the quantity of heat in legal units. Electrical safety requirements are not covered by this European Standard. Pressure safety requirements are not covered by this European Standard. Surface mounted temperature sensors are not covered by this European Standard.

ICS 17.200.10

Võtmesõnad: metroloogia, mõõteriistad, märgistus, projekteerimine, seadmete eristuskiri, soojusenergia arvestid, tootmine

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1434-2

February 2007

ICS 17.200.10

Supersedes EN 1434-2:1997

English Version

Heat meters - Part 2: Constructional requirements

Compteurs d'énergie thermique - Partie 2: Prescriptions de fabrication

Wärmezähler - Teil 2: Anforderungen an die Konstruktion

This European Standard was approved by CEN on 7 January 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, 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

Ref. No. EN 1434-2:2007: E

Contents

Page

Foreword

This document (EN 1434-2:2007) has been prepared by Technical Committee CEN/TC 176 “Heat meters”, the secretariat of which is held by DS.

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 2007, and conflicting national standards shall be withdrawn at the latest by August 2007.

This document supersedes EN 1434-2:1997.

The other parts are

Part 1 - General requirements

Part 3 - Data exchange and interfaces

Part 4 - Pattern approval tests

Part 5 - Initial verification tests

Part 6 - Installation, commissioning, operational monitoring and maintenance

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

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

Electrical safety requirements are not covered by this European Standard.

Pressure safety requirements are not covered by this European Standard.

Surface mounted temperature sensors are not covered by this European Standard.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1434-1:2007, *Heat meters — Part 1: General requirements*

prEN 1434-3, *Heat meters — Part 3: Data exchange and interfaces*

EN 60751:1995, *Industrial platinum resistance thermometer sensors (IEC 60751:1983 + A1:1986)*

EN 60947-5-6, *Low-voltage switchgear and controlgear — Part 5-6: Control circuit devices and switching elements — DC interface for proximity sensors and switching amplifiers (NAMUR) (IEC 60947-5- 6:1999)*

EN ISO 228-1, *Pipe threads where pressure tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

ISO 4903, *Information technology — Data communication — 15-pole DTE/DCE interface connector and contact number assignments*

ISO 7005-1, *Metallic flanges — Part 1: Steel flanges*

ISO 7005-2, *Metallic flanges — Part 2: Cast iron flanges*

ISO 7005-3, *Metallic flanges — Part 3: Copper alloy and composite flanges*

3 Temperature sensors

3.1 General

The temperature sensor sub-assembly shall consist of platinum resistance temperature sensors selected as matched pairs.

Other types of temperature sensor pairs may be used, where the sub-assembly consists, inseparably, of temperature sensors and calculator.

The maximum admissible working pressure shall be declared by the supplier.

Where no dimensional tolerance is specified, the values shall be taken from Table 1.

Table 1 — Tolerances

Dimension mm	0,5 up to 3	over 3 up to 6	over 6 up to 30	over 30 up to 120	over 120 up to 400
Tolerance mm	± 0,2	± 0,3	± 1	± 1,5	± 2,5

3.2 Mechanical design

3.2.1 General

For pipe sizes up to and including DN 250, 3 different temperature sensor types are standardised:

direct mounted short probes - Type DS;

direct mounted long probes - Type DL;

pocket mounted long probes - Type PL.

Types PL and DL can be either head probes or have permanently connected signal leads. Type DS shall have permanently connected signal leads only.

3.2.2 Materials of temperature probe sheath and pocket

The temperature pocket and the protective sheath of direct mounted probes shall be of a material, that is adequately strong and resistant to corrosion and has the requisite thermal conductivity.

A suitable material has been shown to be EN 10088-3 - X6 Cr Ni Mo Ti 17 12 2

3.2.3 Dimensions of direct mounted short probes - Type DS

The dimensions shall be as given in Figure 1.

Further non-normative information is given in Annex A, Figure A.1.

The qualifying immersion depth shall be 20 mm – or less if so specified by the supplier.

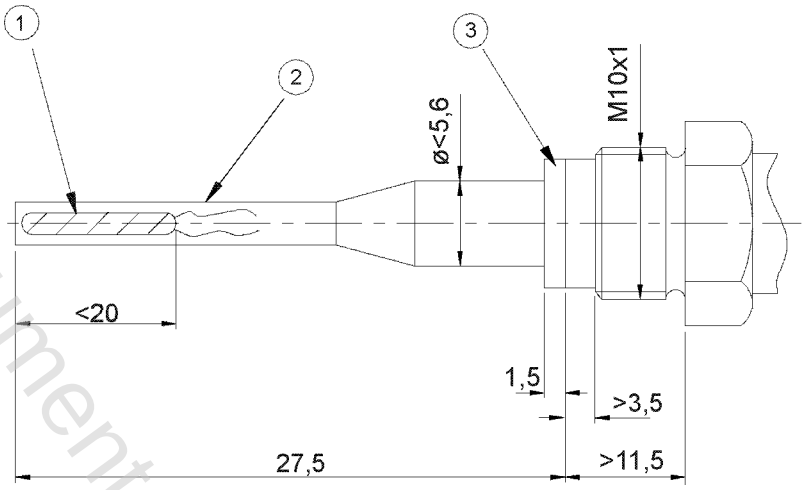
3.2.4 Dimensions of direct mounted long probes - Type DL

The dimensions shall be as given in Figure 2.

Further information is given in Annex A, Figures A.2 and A.3.

The qualifying immersion depth shall be 50 % of the length B – or less if so specified by the supplier.

Dimensions in millimetres



Key

1 temperature sensing element
2 protective sheath
3 sealing ring

Figure 1 — Temperature probes type DS