Irish Standard
I.S. EN ISO 15112:2014

Natural gas - Energy determination (ISO 15112:2011)

I.S. EN ISO 15112:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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English Version

Natural gas - Energy determination (ISO 15112:2011)

Gaz naturel - Détermination de l'énergie (ISO 15112:2011)

Erdgas - Bestimmung von Energiemengen (ISO 15112:2011)

This European Standard was approved by CEN on 16 February 2014.

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Foreword

The text of ISO 15112:2011 has been prepared by Technical Committee ISO/TC 193 “Natural gas” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 15112:2014.

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of an identical text or by endorsement, at the latest by September 2014, and conflicting national standards shall be withdrawn at the latest by September 2014.

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The text of ISO 15112:2011 has been approved by CEN as EN ISO 15112:2014 without any modification.

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I.S. EN ISO 15112:2014

INTERNATIONAL STANDARD

ISO 15112

Second edition
2011-07-15

Natural gas — Energy determination

Gaz naturel — Détermination de l'énergie

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15112 was prepared by Technical Committee ISO/TC 193, *Natural gas*.

This second edition cancels and replaces the first edition (ISO 15112:2007), which has been technically revised.

Introduction

Since the early 1800s, it has been general practice for manufactured gas and, subsequently, natural gas to be bought and sold on a volumetric basis. Much time and effort has therefore been devoted to developing the means of flow measurement.

Because of the increasing value of energy and variations in gas quality, billing on the basis of thermal energy has now become essential between contracting partners and the need to determine calorific value by measurement or calculation has led to a number of techniques. However, the manner in which calorific value data are applied to flow volume data to produce the energy content of a given volume of natural gas has been far from a standardized procedure.

Energy determination is frequently a necessary factor wherever and whenever natural gas is metered, from production and processing operations through to end-user consumption. This International Standard has been developed to cover aspects related to production/transmission and distribution/end user. It provides guidance to users of how energy units for billing purposes are derived, based on either measurement or calculation or both, to increase confidence in results for contracting partners.

Other standards relating to natural gas, flow measurement, calorific value measurement, calculation procedures and data handling with regard to gas production, transmission and distribution involving purchase, sales or commodity transfer of natural gas can be relevant to this International Standard.

This International Standard contains ten informative annexes.

Natural gas — Energy determination

1 Scope

This International Standard provides the means for energy determination of natural gas by measurement or by calculation, and describes the related techniques and measures that are necessary to take. The calculation of thermal energy is based on the separate measurement of the quantity, either by mass or by volume, of gas transferred and its measured or calculated calorific value. The general means of calculating uncertainties are also given.

Only systems currently in use are described.

NOTE Use of such systems in commercial or official trade can require the approval of national authorization agencies, and compliance with legal regulations is required.

This International Standard applies to any gas-measuring station from domestic to very large high-pressure transmission.

New techniques are not excluded, provided their proven performance is equivalent to, or better than, that of those techniques referred to in this International Standard.

Gas-measuring systems are not the subject of this International 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.

ISO 6976, *Natural gas — Calculation of calorific values, density, relative density and Wobbe index from composition*

3 Terms and definitions

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

3.1
accuracy of measurement
closeness of the agreement between a measurement result and a true value of the measurand

[ISO 14532:2001]

3.2
adjustment
⟨of a measuring instrument⟩ operation of bringing a measuring instrument into a state of performance suitable for its use

NOTE Adjustment may be automatic, semi-automatic or manual.