

Looduslik gaas. Vee määramine Karl Fischeri meetodil. Osa 1: Sissejuhatus

Natural gas - Determination of water by the Karl
Fischer method - Part 1: Introduction

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN ISO 10101-1:2000 sisaldab Euroopa standardi EN ISO 10101-1:1998 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 10.05.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN ISO 10101-1:2000 consists of the English text of the European standard EN ISO 10101-1:1998.</p> <p>This document is endorsed on 10.05.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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| <p>Käsitlusala: EN ISO 10101 käesolev osa esitab peamised nõuded vee määramiseks looduslikus gaasis Karl Fischeri meetodit kasutades. EN ISO 10101 ja EN ISO 10101-3 esitab kaks eraldi määramismeetodit: tiitrimisprotseduuri ja kulonomeetrilise protseduuri.</p> | <p>Scope:</p> |
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ICS 75.060

Võtmesõnad: gaasianalüüs, karl fischer, keemiline analüüs, looduslik gaas, sisalduse määramine, vesi, üldpõhimõtted

ICS 75.060

Descriptors: Natural gas, analysis, water content.

English version

**Natural gas –
Determination of water by the Karl Fischer method**

Part 1: Introduction
(ISO 10101-1 : 1993)

Gaz naturel – Dosage de l'eau par la
méthode de Karl Fischer –
Partie 1: Introduction
(ISO 10101-1 : 1993)

Erdgas – Bestimmung des
Wassergehaltes nach Karl Fischer –
Teil 1: Einführung
(ISO 10101-1 : 1993)

This European Standard was approved by CEN on 1998-02-22.

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.

The European Standards exist 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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the 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

International Standard

ISO 10101-1 : 1993 Natural gas – Determination of water by the Karl Fischer method – Part 1: Introduction, which was prepared by ISO/TC 193 'Natural gas' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 19 'Petroleum products, lubricants and related products', the Secretariat of which is held by NNI, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by September 1998 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10101-1 : 1993 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

WARNING — Local safety regulations must be taken into account, when the equipment is located in hazardous areas. Due to the toxicity and odour of pyridine, the user should ensure that there is adequate ventilation.

1 Scope

This part of ISO 10101 specifies general requirements for the determination of water in natural gas using the Karl Fischer method. ISO 10101-2 and ISO 10101-3 specify two individual methods of determination, a titration procedure and a coulometric procedure, respectively.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 10101. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10101 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6712:1982, *Gas analysis — Sampling and transfer equipment for gases supplying an analytical unit.*

ISO 10101-2:1993, *Natural gas — Determination of water by the Karl Fischer method — Part 2: Titration procedure.*

ISO 10101-3:1993, *Natural gas — Determination of water by the Karl Fischer method — Part 3: Coulometric procedure.*

3 Principle

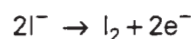
Reaction of water present in the test sample with iodine and sulfur-dioxide in a pyridine/methanol mixture (Karl Fischer reagent).

3.1 Principle of the first method (ISO 10101-2)

A measured volume of gas is passed through a cell containing a relatively small volume of absorbent solution. Water in the gas is dissolved in the absorbent solution and subsequently titrated with Karl Fischer reagent, the endpoint being detected voltametrically.

3.2 Principle of the second method (ISO 10101-3)

A measured volume of gas is passed through a cell containing anhydrous, previously titrated, anodic solution. The iodine required for the titration of the dissolved water is coulometrically produced from the iodide present in the solution by the reaction



4 Reactions and interferences

