



SLOVENSKI STANDARD
SIST EN ISO 10101-1:2000

01-december-2000

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Natural gas - Determination of water by the Karl Fischer method - Part 1: Introduction
(ISO 10101-1:1993)

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

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

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Ta slovenski standard je istoveten z: EN ISO 10101-1:1998

ICS:

75.060

Zemeljski plin

Natural gas

SIST EN ISO 10101-1:2000

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 10101-1

March 1998

ICS 75.060

Descriptors: See ISO document

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 22 February 1998.

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.

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

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Foreword

The text of the International Standard from Technical Committee ISO/TC 193 "Natural gas" of the International Organization for Standardization (ISO) has been taken over as an European Standard by CEN/CS.

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 1998, and conflicting national standards shall be withdrawn at the latest by September 1998.

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

Endorsement notice

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

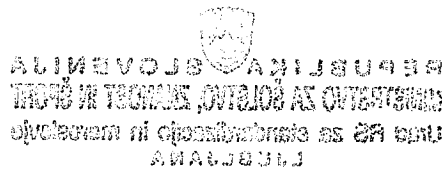
NOTE: Normative references to International Standards are listed in annex ZA (normative).

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Annex ZA (normative)**Normative references to international publications
with their relevant European publications**

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 10101-2	1993	Natural gas - Determination of water by the Karl Fischer method - Part 2: Titration procedure	EN ISO 10101-2	1998
ISO 10101-3	1993	Natural gas - Determination of water by the Karl Fischer method - Part 3: Coulometric procedure	EN ISO 10101-3	1998

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INTERNATIONAL
STANDARD

ISO
10101-1

First edition
1993-10-01

Corrected and reprinted
1995-12-15

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

Part 1:
Introduction

STANDARD PREVIEW
(standards.iteh.ai)

Gaz naturel — Dosage de l'eau par la méthode de Karl Fischer —

Partie 1. Introduction
<https://standards.iteh.ai/catalog/standards/sist/58fa5f34-c9ce-40f0-9a1a-05a2437db133/sist-en-iso-10101-1-2000>



Reference number
ISO 10101-1:1993(E)

ISO 10101-1:1993(E)**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.

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.

International Standard ISO 10101-1 was prepared by Technical Committee ISO/TC 193, *Natural gas*, Sub-Committee SC 1, *Analysis of natural gas*.

ISO 10101 consists of the following parts, under the general title *Natural gas — Determination of water by the Karl Fischer method*:

- Part 1: *Introduction*
- Part 2: *Titration procedure*
- Part 3: *Coulometric procedure*

Annex A of this part of ISO 10101 is for information only.

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International Organization for Standardization
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Natural gas — Determination of water by the Karl Fischer method —

Part 1: Introduction

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.

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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

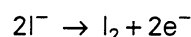
Reaction of water present in the test sample with iodine and sulfur-dioxide in a pyridine/methanol mixture (Karl Fischer reagent).

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

