SLOVENSKI STANDARD
SIST EN ISO 7278-2:1998

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Tekoči ogljikovodiki - Dinamična meritev - Sistemi za overjanje volumetrov - 2. del: Naprave za overjanje cevovodov (ISO 7278-2:1988)

Liquid hydrocarbons - Dynamic measurement - Proving systems for volumetric meters - Part 2: Pipe provers (ISO 7278-2:1988)

Flüssige Kohlenwasserstoffe - Dynamische Messung - Prüfsysteme für volumetrische Meßgeräte - Teil 2: Rohrprüfer (ISO 7278-2:1988)

Hydrocarbures liquides - Mesurage dynamique - Systèmes d'étalonnage des compteurs volumétriques - Partie 2: Tubes étalons (ISO 7278-2:1988)

Ta slovenski standard je istoveten z: **EN ISO 7278-2:1995**

ICS:

75.180.30	Oprema za merjenje prostornine in merjenje	Volumetric equipment and measurements

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EN ISO 7278-2

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Liquid hydrocarbons - Dynamic measurement - Proving systems for volumetric meters - Part 2: Pipe provers (ISO 7278-2:1988)

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This European Standard was approved by CEN on 1995-09-09. 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.

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CEN

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 28 "Petroleum products and lubricants" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 19 "Petroleum products, lubricants and related products", the secretariat of which is held by NNI.

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of an identical text or by endorsement, at the latest by April 1996, and conflicting national standards shall be withdrawn at the latest by April 1996.

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.

Endorsement notice

The text of the International Standard ISO 7278-2:1988 has been approved by CEN as a European Standard without any modification.

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

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.

Publication	Year	Title	EN	Year
ISO 4267-2	1988	Petroleum and liquid petroleum products - Calculation of oil quantities - Part 2: Dynamic measurement	EN ISO 4267-2	1995

INTERNATIONAL STANDARD

ISO 7278-2

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Liquid hydrocarbons — Dynamic measurement — Proving systems for volumetric meters —

Part 2: Pipe provers

Hydrocarbures liquides — Mesurage dynamique — Systèmes d'étalonnage des compteurs volumétriques

Partie 2: Tubes étalons

Reference number
ISO 7278-2 : 1988 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7278-2 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants.*

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Liquid hydrocarbons — Dynamic measurement — Proving systems for volumetric meters —

Part 2: Pipe provers

0 Introduction

Pipe provers are used as volume standards for the calibration of liquid meters. The purpose of this part of ISO 7278 is to outline the essential elements of a pipe prover, to provide specifications for its performance, and to give guidance on its design, installation and calibration. Pipe provers discussed in this part of ISO 7278 are of the running-start/running-stop type, in which flow is uninterrupted during proving, thus permitting the meter to be proved under its normal operating conditions. This type of prover includes a calibrated section of pipe in which a displacer travels, actuating detection devices which produce electrical signals as the displacer passes each end of the calibrated portion. The displacer finally stops at the end of the run as it enters a region where the flow bypasses it.

Both stationary and mobile provers may be constructed on this principle. The calibrated section of the prover may be straight or folded (U-shaped), and the design may be such that the displacer moves around a closed loop in only one direction (unidirectional) or, alternatively, in both directions (bidirectional).

ISO 7278 consists of the following parts, under the general title *Liquid hydrocarbons — Dynamic measurement — Proving systems for volumetric meters:*

— *Part 1: General principles*

— *Part 2: Pipe provers*

— *Part 3: Pulse interpolation techniques*

Annex A forms an integral part of this part of ISO 7278. Annex B is for information only.

1 Scope and field of application

1.1 This part of ISO 7278 provides guidance for the design, installation and calibration of pipe provers. Calculation techniques for use when calibrating and operating provers are detailed in ISO 4267-2.

1.2 Most of the material in this part of ISO 7278 is general in that it applies to pipe provers for use with different liquids and types of meters and for proving them in different services. This part of ISO 7278 does not apply to the newer "small volume" or "compact" provers.

1.3 The standard reference conditions for petroleum measurement are a temperature of 15 °C and a pressure of 101 325 Pa as specified in ISO 5024.

NOTE — In some countries other reference temperatures are used, e.g. 20 °C and 60 °F.

2 References

ISO 2715, *Liquid hydrocarbons — Volumetric measurement by turbine meter systems.*

ISO 4267-2, *Petroleum and liquid petroleum products — Calculation of oil quantities — Part 2: Dynamic measurement.* [1)]

ISO 5024, *Petroleum liquids and gases — Measurement — Standard reference conditions.*

ISO 7278-3, *Liquid hydrocarbons — Dynamic measurement — Proving systems for volumetric meters — Part 3: Pulse interpolation techniques.*

ISO 8222, *Petroleum measurement systems — Calibration — Temperature corrections for use with volumetric reference measuring systems.*

3 Definitions

For the purposes of this part of ISO 7278, the following definitions apply:

3.1 base volume: The volume of a prover calibrated section, i.e. the length between the detectors, at specified reference conditions of temperature and pressure.

1) At present at the stage of draft.