

**TOORNAFTA JA VEDELAD NAFTATOOTED
VEDELIKUTASEME JA TEMPERATUURI AUTOMAATNE
MÕÕTMINE MAHUTITES**
**Osa 3: Vedelikutaseme mõõtmine survestatud mahutites
(v.a külmikmahutid)**

**Petroleum and liquid petroleum products —
Measurement of level and temperature in storage tanks
by automatic methods — Part 3: Measurement of level in
pressurized storage tanks (non-refrigerated)
(ISO 4266-3:2024, identical)**

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-ISO 4266-3:2025 sisaldab rahvusvahelise standardi ISO 4266-3:2024 „Petroleum and liquid petroleum products — Measurement of level and temperature in storage tanks by automatic methods — Part 3: Measurement of level in pressurized storage tanks (non-refrigerated)“ identset ingliskeelset teksti.

Ettepaneku rahvusvahelise standardi ümbertrüki meetodil ülevõtuks on esitanud EVS/TK 38, standardi avaldamist on korraldanud Eesti Standardimis- ja Akrediteerimiskeskus.

Standard EVS-ISO 4266-3:2025 on jõustunud sellekohase teate avaldamisega EVS Teatajas.

Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.

This Estonian Standard EVS-ISO 4266-3:2025 consists of the identical English text of the International Standard ISO 4266-3:2024 „Petroleum and liquid petroleum products — Measurement of level and temperature in storage tanks by automatic methods — Part 3: Measurement of level in pressurized storage tanks (non-refrigerated)“.

Proposal to adopt the International Standard by reprint method has been presented by EVS/TC 38, the Estonian Standard has been published by the Estonian Centre for Standardisation and Accreditation.

Standard EVS-ISO 4266-3:2025 has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.

This standard is available from the Estonian Centre for Standardisation and Accreditation.

Käsitlusala

See dokument annab juhised survestatud mahutites vähem kui 4 MPa aururõhuga toornafta ja naftasaaduste vedelikutaseme mõõtmisel kasutatavate, nii kontaktset kui ka kontaktivaba tüüpi automaatsete nivoomõõturite (*automatic level gauges* - ALG) täpsuse, paigaldamise, kasutuselevõtu, kalibreerimise ja nõuetele vastavuse kontrolli kohta.

See dokument annab juhised ALG-de kasutamiseks tehingute / valdaja vahetuse aluseks olevates rakendustes.

See dokument ei ole rakendatav ALG-ga vedelikutaseme mõõtmisel külmikmahutites ja maa-alustes koobasmahutites.

This document is a preview generated by EVS

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 75.180.30

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autoriõiguse kaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about standards copyright protection, please contact the Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

This document is a preview generated by EVS

Contents	Page
Foreword	v
1 Scope	1
2 Normative reference	1
3 Terms and definitions	1
4 Precautions	2
4.1 Safety precautions.....	2
4.2 Equipment precautions.....	3
4.3 General precautions.....	3
5 Accuracy	4
5.1 Intrinsic error of ALGs.....	4
5.2 Calibration prior to installation.....	4
5.3 Error caused by installation and operating conditions.....	4
5.4 Overall accuracy.....	4
5.4.1 General.....	4
5.4.2 Use of ALGs for fiscal/custody transfer applications.....	5
6 Installation of ALGs	5
6.1 General.....	5
6.2 Mounting location.....	5
6.3 Manufacturer's requirements.....	5
6.4 Installation.....	5
6.4.1 Installation of intrusive ullage ALGs mounted on still-wells.....	5
6.4.2 Installation of intrusive ullage ALGs using guide wires.....	7
6.4.3 Installation of non-intrusive ullage ALGs (e.g. microwave or radar) mounted on still-wells.....	8
6.4.4 Location of ALG.....	9
6.4.5 Installation of ALGs other than those described in this document.....	10
6.5 Still-well design.....	10
7 Initial setting and initial verification of ALGs in the field	10
7.1 Preparation.....	10
7.1.1 Checking for critical distances.....	10
7.1.2 Checking for free movement of level-sensing element of intrusive ALGs.....	11
7.1.3 Checking for influences of changes in physical and electrical properties of the product (vapour/liquid).....	11
7.2 Initial setting.....	11
7.2.1 General.....	11
7.2.2 Setting of intrusive ullage ALGs.....	11
7.2.3 Setting of non-intrusive ALGs.....	12
7.2.4 Other ALGs not described in this document.....	12
7.3 Initial field verification.....	13
7.3.1 General.....	13
7.3.2 Verification procedure.....	13
7.3.3 Tolerance of initial field verification.....	13
7.4 Record keeping.....	13
8 Subsequent verification of ALGs	14
8.1 General.....	14
8.2 Frequency of subsequent verification.....	14
8.3 Procedure.....	14
8.4 Tolerance for subsequent verification of ALGs in fiscal/custody transfer application.....	14

8.5	Comparison of the ALG readings from current and previous verifications.....	14
8.6	Adjustment in subsequent verification.....	15
9	Data communication and receiving.....	15
	Bibliography	16

This document is a preview generated by EVS

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 28, *Petroleum and related products, fuels and lubricants from natural or synthetic sources*, Subcommittee SC 2, *Measurement of petroleum and related products*.

This second edition cancels and replaces the first edition (ISO 4266-3:2002), which has been technically revised.

The main changes are as follows:

- terms and definitions in [Clause 3](#) have been updated;
- in [4.3.2](#), the level that is measured and recorded simultaneously with the temperatures has been clarified;
- in [5.2](#), the information on calibration prior to installation has been updated;
- in [Clause 6](#), the design requirements for still-wells have been clarified and the limitation of non-perforated still-wells removed.

A list of all parts in the ISO 4266 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This document is a preview generated by EVS

Petroleum and liquid petroleum products — Measurement of level and temperature in storage tanks by automatic methods —

Part 3:

Measurement of level in pressurized storage tanks (non-refrigerated)

1 Scope

This document gives requirements and guidance on the accuracy, installation, commissioning, calibration and verification of automatic level gauges (ALGs) both intrusive and non-intrusive, for measuring the level of petroleum and petroleum products having a vapour pressure less than 4 MPa, stored in pressurized storage tanks.

This document gives guidance on the use of ALGs in custody transfer application.

This document is not applicable to the measurement of level in caverns and refrigerated storage tanks with ALG equipment.

2 Normative reference

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1998 (all parts), *Petroleum industry — Terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in the ISO 1998 series and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

3.1

automatic level gauge

ALG

automatic tank gauge

ATG

instrument that continuously measures liquid height (i.e. dip or *ullage* (3.8)) in storage tanks

3.2

datum plate

datum point dip-plate

dipping datum plate

horizontal metal plate located directly below the gauging reference point to provide a fixed contact surface from which manual liquid-depth measurements are made