

<b>STN</b>	<b>Automatizované systémy na manipuláciu s kvapalinami</b> <b>Časť 3: Stanovenie, špecifikácia a vykazovanie objemového výkonu (ISO 23783-3: 2022)</b>	<b>STN</b> <b>EN ISO 23783-3</b>  70 4111
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Automated liquid handling systems - Part 3: Determination, specification and reporting of volumetric performance (ISO 23783-3:2022)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/23

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**EN ISO 23783-3**

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English Version

## Automated liquid handling systems - Part 3: Determination, specification and reporting of volumetric performance (ISO 23783-3:2022)

Systèmes automatisés de manipulation de liquides -  
Partie 3: Détermination, spécification et compte-rendu  
des performances volumétriques (ISO 23783-3:2022)

Automatisierte Flüssigkeitsdosiersysteme - Teil 3:  
Bestimmung, Spezifikation und Protokollierung der  
volumetrischen Leistung (ISO 23783-3:2022)

This European Standard was approved by CEN on 25 September 2023.

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**EN ISO 23783-3:2023 (E)**

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## **European foreword**

The text of ISO 23783-3:2022 has been prepared by Technical Committee ISO/TC 48 "Laboratory equipment" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 23783-3:2023 by Technical Committee CEN/TC 332 "Laboratory equipment" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by April 2024, and conflicting national standards shall be withdrawn at the latest by April 2024.

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## **Endorsement notice**

The text of ISO 23783-3:2022 has been approved by CEN as EN ISO 23783-3:2023 without any modification.

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**Automated liquid handling systems —  
Part 3:  
Determination, specification and  
reporting of volumetric performance**

*Systèmes automatisés de manipulation de liquides —*

*Partie 3: Détermination, spécification et compte-rendu des  
performances volumétriques*



Reference number  
ISO 23783-3:2022(E)

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## ISO 23783-3:2022(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.

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 documents 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 48, *Laboratory equipment*.

This first edition of ISO 23783-3, together with ISO 23783-1 and ISO 23783-2, cancels and replaces IWA 15:2015.

A list of all parts in the ISO 23783 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](http://www.iso.org/members.html).

## Introduction

Globalization of laboratory operations requires standardized practices for operating automated liquid handling systems (ALHS), communicating test protocols, as well as analysing and reporting of performance parameters. IWA 15:2015 was developed to provide standardized terminology, test protocols, and analytical methods for reporting test results. The concepts developed for, and described in, IWA 15 form the foundation of the ISO 23783 series.

Specifically, this document addresses the needs of:

- users of ALHS, as a basis for calibration, verification, validation, optimization, and routine testing of trueness and precision;
- manufacturers of ALHS, as a basis for quality control, communication of acceptance test specifications and conditions, and issuance of manufacturer's declarations (where appropriate);
- test houses and other bodies, as a basis for certification, calibration, and testing.

The tests established in this document should be carried out by trained personnel.

# Automated liquid handling systems —

## Part 3:

# Determination, specification and reporting of volumetric performance

## 1 Scope

This document provides guidance and establishes requirements for collecting and examining volumetric performance data of automated liquid handling systems (ALHS). It specifies how to index and track volumetric performance data and provides descriptive statistics for the evaluation of these data. This document also specifies reporting requirements of ALHS volumetric performance.

This document is applicable to all ALHS with complete, installed liquid handling devices, including tips and other essential parts needed for delivering a specified volume, which perform liquid handling tasks without human intervention into labware.

**NOTE** For terminology and general requirements of automated liquid handling systems, see ISO 23783-1. Measurement procedures for the determination of volumetric performance are given in ISO 23783-2.

## 2 Normative references

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 23783-1, *Automated liquid handling systems — Part 1: Terminology and general requirements*

ISO 23783-2:2022, *Automated liquid handling systems — Part 2: Measurement procedures for the determination of volumetric performance*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**