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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47792.1-2026

**Automated liquid handing systems - Part 1: Vocabulary and
general requirements**

自动液体处理系统 第1部分：术语和通用要求

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 1 of GB/T 47792 "Automatic Liquid Handling Systems". GB/T 47792 has the following parts published.

---Part 1: Terminology and General Requirements;

---Part 2: Measurement Procedures for Capacity Performance;

---Part 3: Determination, specification and reporting of capacity performance.

This document is modified to adopt ISO 23783-1:2022 "Automatic liquid handling systems - Part 1: Terminology and general requirements".

Compared with ISO 23783-1:2022, this document has undergone many structural adjustments. A comparison of the structural numbering changes between the two documents is provided below.

See Appendix A for the table.

This document differs significantly from ISO 23783-1:2022. The relevant clauses are

indicated in the margins using vertical markers.

The straight lines (|) are marked. A summary of these technical differences and their reasons can be found in Appendix B.

The following editorial changes have been made to this document.

---The notes in ISO 23783-1:2022 concerning ISO 23783-2:2022 and ISO 23783-3:2022 have been deleted;

---The description regarding the URLs of the ISO and IEC terminology databases in ISO 23783-1:2022 has been removed;

---The note regarding droplet volume range and droplet delivery velocity for acoustic droplet jetting technology in ISO 23783-1:2022 has been deleted;

---The note in ISO 23783-1:2022 regarding the possibility that certain automated liquid handling systems may operate outside the specification range has been removed;

---The section in ISO 23783-1:2022 concerning the reduction in precision caused by residual liquid on the exterior of the air displacement nozzle and its sealing performance has been removed.

Note;

---Appendix B, "Technical Differences Between This Document and ISO 23783-1:2022 and Their Reasons," has been added;

---The references have been adjusted.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China National Light Industry Council.

This document is under the jurisdiction of the National Technical Committee on Standardization of Glass Instruments (SAC/TC178).

Introduction

Automated liquid handling systems can replace traditional manual pipetting tools, automatically completing high-precision liquid handling tasks and effectively reducing human error.

While offering advantages in performance, automated liquid handling systems also support process control and traceability, finding wide application in areas such as drug discovery and clinical testing. However, due to the performance limitations of automated liquid handling systems...

The parameters vary, and there is no clear and effective measurement method to verify the

key issues of its performance. Therefore, this document is used to standardize the automatic liquid...

This document outlines the performance requirements and testing methods for body processing systems, providing technical support for the analysis and improvement of product manufacturing quality. It is intended to facilitate readers' understanding and application of these requirements.

Content related to the performance requirements and testing methods of liquid handling systems.

GB/T 47792 "Automatic Liquid Handling Systems" is proposed to consist of three parts.

---Part 1: Terminology and General Requirements. This section aims to define the types, terminology, and general requirements related to automated liquid handling systems.

---Part 2: Measurement Procedures for Capacity Performance. The purpose is to define the testing procedures for the capacity performance of automated liquid handling systems.

---Part 3: Determination, Specification, and Reporting of Capacity Performance. The purpose is to specify capacity performance data for automated liquid handling systems.

Collection and inspection methods, and reporting requirements for capacity performance.

Automated Liquid Handling System Part 1: Terminology and General Requirements

1 Scope

This document defines the terminology related to automated liquid handling systems, specifies the general requirements for different types of automated liquid handling systems, and describes...

The method for setting up and adjusting an automatic liquid handling system is described.

This document applies to automated liquid handling systems equipped with liquid handling devices.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 47792.2-2026 Automatic liquid handling systems - Part 2: Procedures for measuring capacity performance (ISO 23783-2) 2022, MOD) GB/T 47792.3-2026 Automated liquid