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

GB/T 44444-2024

**Expression of performance of fluorometric oxygen analyzers in
liquid media**

液体荧光氧分析仪的性能表示

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is equivalent to IEC 62703:2013 "Performance Expression of Liquid Fluorescence Oxygen Analyzers".

1 Scope

This document applies to fluorescent oxygen analyzers (hereinafter referred to as "instruments") for continuous determination of the partial pressure or concentration of dissolved oxygen in liquids.

It is suitable for the determination of ultrapure water, fresh water, drinking water, sea water, industrial or municipal sewage and liquids in industrial processes.

This document does not apply to instruments for the detection of oxygen in gases based on fluorescence.

The sensor unit of the instrument in contact with the measured medium contains a luminophore with an oxygen-permeable polymer membrane or contains other oxygen-permeable materials (or matrix) of the luminescent body.

This document specifies terms and definitions, requirements and test methods for instruments.

This document is consistent with the provisions in GB/T 6592-2010 and IEC 60770.

This document is applicable to instruments based on online measurement technology and permanently installed indoors or outdoors.

Safety requirements are in accordance with IEC 61010-1.

The standard range for analog DC current signals for process control systems is given in IEC 60381-1.

For the method of selecting the impact quantity test value, please refer to the relevant provisions of IEC 60654.

The requirements for the preparation of instrument instruction manuals shall comply with IEC 61187.

For regulations on quantities, units and symbols, see ISO 80000-1:2022.

This document aims to.

- Terms and conditions for specifying the performance characteristics of liquid fluorescence oxygen analyzers used for continuous determination of dissolved oxygen partial pressure or concentration in liquid media definition;
- Unify the methods for manufacturing and testing the functional characteristics of such instruments;
- Tests and test methods required to determine functional characteristics;
- Provide basic documents in accordance with ISO 9001 quality assurance standards.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 6592-2010 Performance indication of electrical and electronic measuring equipment (IEC 60359:2001, IDT) Note. GB/T 2423 (all parts) Environmental testing [IEC 60068 (all parts)] IEC 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use Part 1: General requirements (IEC 61010-1:2001, IDT) Note. GB 4793.1-2007 Safety requirements for electrical equipment for measurement, control and laboratory use Part 1: General requirements (IEC 61010-1:2001, IDT) Note. GB/T 16511-1996 Random documents for electrical and electronic measuring equipment (IEC 61187:1993, IDT)