

JIS

JAPANESE INDUSTRIAL STANDARD

Continuous dissolved oxygen analyzer

JIS K 0803—1995

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by

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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Continuous dissolved oxygen analyzer

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1. Scope This Japanese Industrial Standard specifies the continuous analyzer (hereafter referred to as "analyzer") based on the electrode method to measure continuously the concentration of dissolved oxygen in water at 0°C to 35°C of water region for public use including rivers, lakes, marshes, sea regions, etc., and of factories and business places as well as sewage treatment facilities.

Remarks: The standards cited in this Standard are shown in Attached Table 1.

2. Common matters Common matters shall be described in JIS K 0050, JIS K 0101, JIS K 0102, and JIS Z 8710.

3. Definitions For the main terms used in this Standard, the definitions in JIS K 0101, JIS K 0102, JIS K 0211 and JIS Z 8103 apply.

4. Classification of analyzers The analyzer shall be classified according to each principle, and the measuring range (hereafter referred to as "range") shall be as given in Table 1.

A suitable range shall be selected between the upper limit and the lower limit as given in Table 1.

Table 1. Classification of analyzers and their measuring ranges

Classification and principle	Range ⁽¹⁾ mg/l
Diaphragm type polarograph system	0 to 10 to 0 to 20
Diaphragm type galvanic cell system	0 to 10 to 0 to 20

The minimum scale unit shall be not more than 0.5 mg/l.

Note ⁽¹⁾ A range wherein the range is suitably divided according to the object for measurement is provided.

5. Rated voltage and rated frequency The rated voltage of the analyzer shall be single phase a.c. 100 V, and the rated frequency shall be 50 Hz exclusive use, 60 Hz exclusive use or 50 Hz and 60 Hz common use.

6. Performance The analyzer, when subjected to the tests given in 8., the results shall conform to performance given in Table 2.

Table 2. Performance of analyzer

Item	Performance	Test method
Repeatability	$\pm 0.3 \text{ mg/l}$	8.3 (1)
Zero drift	$\pm 0.2 \text{ mg/l}$	8.3 (2)
Span drift	$\pm 0.3 \text{ mg/l}$	8.3 (3)
Response time	2 min max.	8.3 (4)
Precision in temperature compensation	$\pm 0.3 \text{ mg/l}$	8.3 (5)
Stability to voltage fluctuation	Fluctuation in indication value is $\pm 0.2 \text{ mg/l}$.	8.3 (6)
Insulation resistance	5 M Ω min.	8.3 (7)
Withstand voltage	No abnormality	8.3 (8)

7. Structure

7.1 Structure in general The structure of the analyzer shall comply with each of the following items:

- (1) The shape shall be correct and the finish of the assembly and each part shall be superior and rigid.
- (2) There shall be no fear of causing risk under the normal operating conditions, and analyzer shall actuate safely and smoothly.
- (3) Each part shall be of such structure that it does not easily cause mechanical and electrical troubles and generates no risk.
- (4) It shall be of such structure that the analyzer is not interfered by water leakage, water splash, dew condensation, etc.
- (5) It shall be of such structure that it is easily workable and there is no risk at the time of maintenance and check.

7.2 Composition The analyzer shall be composed of a measuring part, an indicating and recording part, as given in Fig. 1.