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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

GB/T 11007-2008

Replace GB/T 11007-1989

Test method of electrolytic conductivity analyzers

电导率仪试验方法

Issued on Jun. 30, 2008 Implemented on Jan. 1, 2009

Issued by General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

Standardization Administration of the People's Republic of China

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Foreword

The Standards replaces GB/T 11007-1989 Test Method of Electrolytic Conductivity Analyzers.

Main differences between the Standards and the original standard in terms of technical contents are as following:

--All the quoted standards are in the latest version;

--Table 1 in the reference conditions shall be modified in accordance with GB/T 11606. Wherein: The environment temperature from "(25 + 2) $^{\circ}$ C" to "(23 + 2) $^{\circ}$ C;

Atmospheric pressure is changed to "(86-106) kPa" from "to be determined"; Add Note 1 and Note 2 in Table 1;

--All the conductivities in the original standard (in symbol of G) are changed to conductivity rate (in symbol of k) according to display of electrolytic conductivity analyzer;

--Use analog device (resistance box) to measure temperature in Fig.1 in the original standard;

--All the "basic errors" in the original standard are changed to "inherent errors";

--Make corresponding modification to measuring range of conductivity according to the current display mode of electrolytic conductivity analyzer, and refer to Table 3;

--Conductivity of deionized water cleaning conductivity cell before test is changed to "not higher than 1×10^{-6} S·cm⁻¹" from "not higher than 0.2×10^{-6} S·cm⁻¹";

--There exists no corresponding relation between conductivity range and standard solution numbers in Table 3 in the original standard, and it is now changed to two tables (Table 3 and Table 4);

--Test method of unknown conductivity cell constant and temperature error are added to the supporting test methods in basic errors in 5.3.2 in the original standard;

--Error of temperature compensator in 5.3.9 in the original standard has been modified according to operability; Error of temperature coefficient compensator is expressed with indication error of temperature coefficient;

--Error of constant compensator in 5.3.10 in the original standard is expressed with indication error of conductivity cell constant;

--Delete the pretreatment for damp in safe test methods in the original standard;

--Delete Table 4 in the dielectric strength test in 5.4.3 in the original standard.

This Standard was proposed by China Machinery Industry Federation.

The Standards is under the jurisdiction of Analytical Instrument SC of National TC124 Industrial Process Measurement and Control of SAC.

The unit responsible for drafting the Standard: Shanghai Precision & Scientific Instrument Co., Ltd.

Main drafters of the Standard: Wang Qiaomei, Gu Minjie, Jin Chunfa.

The standards condition of previous versions of the standard replaced by the Part is:

——GB/T 11007-1989.

Test Method of Electrolytic Conductivity Analyzers

1 Scope

The Standards has regulated test items and methods of electrolytic conductivity analyzer.

The Standards is applicable to instruments measuring conductivity of electrolyte solution, including sensor and electronic unit (hereinafter referred to instrument).

2 Normative references

The articles contained in the following documents have become this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 11606 Test method of analytical instrument environment

JB/T 8277 Preparation method of calibrating solution is applied for measurement of electrolytic conductivity analyzer

JB/T 8278 Preparation method of test solution of electrolytic conductivity analyzer, sodium chloride solution

3 Influence quantities

3.1 Reference conditions

Refer to Table 1 for reference conditions.

Table 1 Reference conditions

| Serial | Influence quantities | Reference value or | Unit | Tolerance | Unit |
|--------|---|--|------|-----------|------|
| No. | | range | | | |
| 1 | Ambient temperature | 23 | °C | ±2 | °C |
| 2 | Relative Humidity | 45-75 | % | | — |
| 3 | Atmospheric pressure | 86-106 | kPa | _ | |
| 4 | Air velocity | 0-0.2 | m/s | | — |
| 5 | Solar radiation | No direct radiation | | | _ |
| 6 | Harmful gas | Ignored | | | _ |
| 7 | Dust | Ignored | | _ | |
| 8 | Ac power supply voltage: | 220 | V | ±2.2 | V |
| 9 | Ac power supply frequency: | 50 | Hz | ±0.5 | Hz |
| 10 | Distortion of AC power supply | <i>β</i> =0 | | β=0.05 | _ |
| 11 | External electric field interference | Necessary to avoid | | | |
| 12 | Mechanical vibration | Ignored | | | — |
| 13 | WORKING LEVEL | As stipulated in the product standard | | ±1 | o |



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