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

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**Calibration Specification for Seawater pH Analyzers
(English Translation)**

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Introduction

This specification is based on JJF 1001-2011 "General Metrology Terms and Definitions", JJF 1059.1-2012 "Inaccurate Measurement Standardized Evaluation and Representation" and JJF 1071-2010 "Rules for the Compilation of National Metrology and Calibration Specifications" are the basic series of specifications Make it.

This specification combines the development and application status of seawater pH measuring instruments, and refers to JJF 1547-2015 "Online pH Part of the content of the "Gauge Calibration Specification" will be formulated.

This specification is released for the first time.

Calibration specification for seawater pH meter

1 Scope

This specification applies to the calibration of seawater pH meters.

2 Reference documents this specification refers to the following documents.

JJF 1547-2015 Online pH Meter Calibration Specification HY/T 098-2007 Seawater pH meter testing method OIMLR54 (1980) pH value of aqueous solution (pHScaleforAqueousSolutions) for dated reference documents, only the dated version applies to this specification; for undated references the latest version (including all amendments) is applicable to this specification.

3 overview

The seawater pH meter refers to an instrument used to measure the pH value of seawater (hereinafter referred to as "meter"). Such instruments Composed of pH sensor, temperature probe and host, it can be directly placed in sea water for measurement, generally integrated in multi-parameter water quality on marine monitoring equipment such as instruments or buoys, it has the characteristics of online real-time continuous measurement without sampling. Based on electrochemistry the working principle of the basic measuring instrument is to convert the hydrogen ion concentration in seawater into the corresponding electrical signal through the sensing element.

The pH value is displayed after analog-to-digital conversion and data processing.

4 Measurement characteristics the measurement characteristics of the measuring instrument are listed in Table 1.

Table 1 Measurement characteristics of the measuring instrument

Item measurement performance

1 The error of pH indication should not exceed ± 0.1

2 The pH indication error caused by temperature compensation should not exceed ± 0.1

3 The temperature indication error should not exceed $\pm 0.5^{\circ}\text{C}$

4 The repeatability of pH indication should not exceed 0.03 Note. All the above indicators are not used as eligibility judgments, only for reference.

5 Calibration conditions

5.1 Calibration environment conditions Ambient temperature. $(23\pm 10)^{\circ}\text{C}$;

Relative humidity. 20%~80%;