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

GB/T 18403.2-2013

**Expression of performance of gas analyzers -- Part 2: Oxygen in
gas (Utilizing high temperature electrochemical sensors)**

气体分析器性能表示 第2部分：气体中氧（采用高温电化学传感器）

(English Translation)

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Foreword

GB/T 18403 "performance of gas analyzers" is divided into the following sections.

- Part 1. General;
- Part 2. Oxygen in gas (high-temperature electrochemical sensors);
- Part 3. paramagnetic oxygen analyzer;
- Part 6. Photometric analyzers.

This section GB/T 18403 Part 2.

This section drafted in accordance with the rules of GB/T 1.1-2009 and GB/T 20000.2-2009 given.

This section uses the translation method is equivalent to using IEC 61207-2:1994 "performance of gas analyzers - Part 2. gas oxygen (using High temperature electrochemical sensors). " Consistency correspondence between this part of international documents and normative references of our files are as follows.

--- GB/T 18403.1-2001 performance of gas analyzers - Part 1. General (eqv IEC 61207-1:1994)

--- GB/T 19001-2008 quality management system requirements (ISO 9001:2008, IDT)

Please note that some of the content of this document may involve patents. Release mechanism of the present document does not assume responsibility for the identification of these patents.

This part is proposed by China Machinery Industry Federation.

This part of the measurement and control of Standardization Technical Committee (SAC/TC124) is administered by the National industrial processes.

This section drafted by. China Instrument Industry Association, Sichuan-Chongqing Analytical Instruments Co., FPI (Hangzhou) Co. Shares the company, Nanjing Analytical

Instrument Factory Co., Ltd., Beijing North sub-Mai Hake Analytical Instruments Co., Ltd., Shanghai Measurement and Testing Technology Research Institute, Beijing City Institute of Metrology detection, East China University of Technology, Beijing Institute of analysis instruments.

Introduction

GB/T 18403 in this section include a high temperature electrochemical oxygen sensor characteristic analyzer terminology, performance specifications and tests.

Use of a high temperature electrochemical oxygen analyzer sensor, the operating temperature is typically in excess of 600 deg.] C, measured for the oxygen content of the gas sample has a very Wide measuring range. Gas to be measured in a representative sample is the product of the combustion process.

There are two types of on-line analyzer An in situ type analyzer that the sensor is installed in the gas path; the other is the sample Type analyzer sample through simple sampling system to the sensor.

A typical online analyzer comprises two parts mounted on the control unit and the sensor cable inside the gas line connection.

Performance of gas analyzers - Part 2.

Gas oxygen (high-temperature electrochemical sensors)

1 Scope

GB/T 18403 in this section apply to the use of high-temperature electrochemical sensor to measure various types of oxygen in the gas analyzer, and with GB/T 18403.1-2001 combination.

This section applies to in-situ and extractive analyzers formula parser and analyzer installed in the indoor and outdoor.

The purpose of this section is.

--- Provisions concerning the gas analyzer features terms and definitions, the analyzer utilizing high-temperature electrochemical sensors continuously measure the oxygen concentration in the sample gas;

--- Unified class analyzer features and verification methods;

--- Specifies the test content and test methods for determination of functional characteristics should be carried out;

--- Provide basic document for the ISO 9001, ISO 9002 and ISO 9003 quality management standard applications.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 17214.1-1998 industrial process measurement and control equipment - Operating conditions - Part 1. Climatic conditions (idt IEC 60654-1:1993) IEC 61207-1:1994 performance of gas analyzers - Part 1. General
(Expression of performance of gas analyzers - Part 1. General) ISO 9001 quality management system requirements (Quality management systems - Requirements) Quality assurance model ISO 9002 quality system of production, installation and service
(Quality systems - Model for quality assurance in production, installation and servicing) ISO 9003 quality system for final inspection and test quality assurance model
(Quality systems - Model for quality assurance in final inspection and test)

3 Terms and Definitions

IEC 61207-1:1994 and defined the following terms and definitions apply to this section.

High temperature electrochemical sensors high-temperature electrochemical sensor High temperature electrochemical sensors in two basic forms.

- a) concentration cell;
- b) ion pump cell.

3.1.1

Concentration cell galvanic concentration cell Commercial analyzers typically use concentration cell composed of two chambers, two chambers by an oxygen ion conductive solid electrolyte separated, each side Provided with a porous electrode.