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

GB/T 13277.3-2015

**Compressed air -- Part 3: Test methods for measurement of
humidity**

压缩空气 第3部分：湿度测量方法

(English Translation)

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Table of Contents

Preface
1 Scope
2 Normative reference document
3 Terms and definitions
4 Units
5 Select Guide
6 Sampling technology
7 Measurement method

Foreword

GB/T 13277 "Compressed air" is divided into 9 parts.

- Part 1. Pollutant Purification Level;
- Part 2. Suspended oil content measurement method;
- Part 3. Humidity measurement method;
- Part 4. Solid particle measurement methods;
- Part 5. Methods for the measurement of oil vapor and organic solvents;
- Part 6. Measurement of gaseous pollutant content;
- Part 7. Measurement of active microbial content;
- Part 8. Solid particle mass concentration measurement method;

Part 9. Methods for the measurement of liquid water content.

This part is part 3 of GB/T 13277.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the re-drafting method to modify ISO 8573-3:1999 "Compressed air Part 3. Humidity measurement method" (English Version).

Taking into account our national conditions, this part of the use of ISO 8573-3:1999, made some changes. The technical differences have been incorporated into the text and in the margins of the terms to which they relate. These technical differences and their originals are given in Appendix E for a list of references.

For ease of use, this section also makes the following editorial changes.

a) the word "international standard" is replaced by the words "this part";

b) Deleting ISO 8573-3:1999 Preface.

This part is made by the China Machinery Industry Federation.

This part is headed by the National Standardization Technical Committee of Compressors (SAC/TC145).

This part of the drafting unit. Hefei General Machinery Research Institute, Hangzhou Risheng purification equipment Co., Ltd., Guangzhou, Guangdong and Guangdong purification Technology Co., Ltd.

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1 Scope

This part of GB/T 13277 specifies the method of measuring the humidity of compressed air, including the selection of methods and the scope of application, sampling techniques Surgery, measurement methods, results assessment, uncertainty analysis and test reports.

This part applies to the measurement of moisture in compressed air in the presence of water vapor.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 4975 Volumetric Compressor Terminology (GB/T 4975-1995, eqvISO 3857-1. 1977, ISO 3857-2.

1977)

GB/T 10893.1 Compressed air dryers - Part 1. Specifications and tests (GB/T 10893.1-2012, ISO 7183.:2007, MOD) GB/T 13277.1 Compressed air - Part 1. Degree of purification of pollutants (GB/T 13277.1-2008, ISO 8573-1.:2001, MOD) GB/T 17446 Fluid Drive Systems and Components Terminology (GB/T 17446-2012, ISO 5598.:2008, IDT)

3 Terms and definitions

The terms and definitions defined in GB/T 4975, GB/T 17446 and GB/T 10893.1 apply to this document.

4 Units

The units used in this section are units commonly used by the International System of Units (SI).

5 Select a guide

Uncertainty of various humidity measurement methods and their scope of application in Table 1.

Table 1 Applicable humidity measurement methods

Sort by Uncertainty Size (Ascending) Methods Method table uncertainty $\pm$ °C the humidity range is pressure Dew point indicates/°C Remarks Spectral method 2 a -80 ~ 60 Measurable water vapor range.

0.1 x 10⁻⁶ to 1 x 10⁻⁶b