

ICS 23.120
CCS J 72



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

GB/T 1236-2017

**Industrial fan -- Performance testing using standardized
airways
(English Translation)**

Issued on: November 1, 2017

Implemented on: May 1, 2018

**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**

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Symbols and units
5 Overview
6 Pressure measuring instrument
Determination of the average pressure in the duct
8 Temperature measurement
9 Speed measurement
10 Determination of input power
11 Measurement of size and determination of area

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 1236-2000 "Industrial Fan with a standardized duct performance test." this standard compared with GB/T 1236-2000, in addition to editorial changes outside the main technical changes are as follows.

- Remove the original standard in the 14.9;
- Removed the original standard in Chapter 22;
- Removed the original standard in Chapter 24;
- Removed the original standard in chapter 29;
- In Chapter 21 "Determination of flow", delete the original standard "ISO Venturi nozzle, 90 ° arc inlet nozzle", and the tapered Import and arc import merger; these deletions and changes at the same time in the standard Chapter 22, Chapter 23, Chapter 24, Chapter 25 Respectively, made the corresponding changes;
- Added Chapter 27 "Rectifier";
- Removed the original standard appendix C;
- Added Appendix C "wind chamber leakage test method";

--- Added Appendix E "fan device input power consumption";

--- Added Appendix F "preferred method of performance testing";

--- In Chapter 30, Chapter 31, Chapter 32, Chapter 33, on the test method of different test equipment introduced in the calculation method, delete the first case of the "simplified method" in the corresponding chapter of the original standard is that the base Mach number is less than 0.15 and the pressure ratio is greater than 1.02.

This standard uses the translation method identical with ISO 5801:2007 "Industrial Fan with standard duct performance test." the documents of our country that are consistent with the corresponding international documents that are normative references in this standard are as follows.

GB/T 2624.1-2006 Measurement of full pipe fluid flow using differential pressure devices installed in circular sectioned pipes - Part 1. General Principles and requirements (ISO 5167-1:2003, IDT) GB/T 7676.2-1998 direct acting analogue electrical measuring instruments and their accessories - Part 2. Ammeter and voltmeter special Special requirements (IEC 60051-2:1984, IDT) GB/T 7676.3-1998 Direct acting analogue indicating electrical measuring instruments and their accessories - Part 3. Power meters and reactive power meters Special Requirements (IEC 60051-3:1984, IDT) GB/T 7676.4-1998 Direct acting analogue indicating electrical measuring instruments and their accessories - Part 4 - Particular requirements for frequency tables (IEC 60051-4:1984, IDT) GB/T 27759-2011 fluid flow measurement uncertainty assessment procedures (ISO 5168:2005, IDT) for ease of use, this standard made the following editorial changes.

--- "This International Standard" changed to "this standard";

--- Use the decimal point "." Instead of as a decimal point comma ",";

--- Remove the original standard in the foreword and introduction;

--- The original standard Appendix C, in this standard as "Appendix NA" as an informative annex;

--- In the cited documents, note the date of the adoption of the Chinese standards corresponding to international standards.

This standard is proposed by the China Machinery Industry Federation.

This standard by the National Fan Standardization Technical Committee (SAC/TC187) centralized.

This standard was drafted unit. Shenyang Blower Institute (Limited), Zhejiang Golden Shield Fan Co., Ltd. Zhejiang fan quality Quantity Inspection Center, Zhejiang Shangfenggao Fengfeng Industrial Co., Ltd., Shaanxi Blower (Group) Co., Ltd., Chongqing General Industry (Group) Co., Ltd.

Responsible company, Zhejiang Elite Leader Fan Co., Ltd., Ningbo Fan Co., Ltd., Zhejiang Shuangyang Fan Co., Ltd., Shanghai Blower Factory Co., Ltd., Jiangsu Golden Spirit Fluid Machinery Technology Co., Ltd., Zhejiang Ming Fan Co., Ltd., Shandong Lin Feng Technology Co., Ltd., Anshan Steel Peak Fan Co., Ltd., Hubei Province Fan Factory Co., Ltd., Shangyu Ventilator Co., Ltd., Jin Blower Group Co., Ltd.

Division, Weihai Klett Phil Wind Turbine Co., Ltd., Hebei Qianhai Blower Co., Ltd., Wuxi Houde Automation Instrumentation Co., Ltd.

1 Scope

This standard applies to all except for the fan designed for air circulation (such as ceiling fans, desk fans) of various types of industrial fan performance Determination.

This standard gives the evaluation of measurement uncertainty and the model test case, within the scope of the prescribed test, speed, gas delivery and the size of the test results when the conversion rules.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 755.2-2003 Rotating electrical machines (except traction motors) to determine the loss and efficiency of test methods (IEC 60034-2:1972, IDT) ISO 3966 closed-circuit fluid flow in the pipeline using the velocity field Pitot static pressure measurement (Measurement of fluid flow in closed conduits- Velocity area method using Pitot static tubes) ISO 5167-1 Measurement of Manifold Fluid Flow with Differential Pressure Devices in Circular Cross Section Piping - Part 1. General Principles and Requirements Seeking (Measurement of flows by means of pressure differential devices inserted in circular cross-section conduits running full-Part 1: General principles and requirements) ISO 5168 Fluid Flow Measurement Uncertainty Evaluation Program (Measurement of fluid flow-Procedure for evaluation of uncertainties) ISO 5221 Air distribution and air diffusion Guidelines for the method of air flow measurement in air ducting Air distribution and air diffusion- Rule to method of measuring air flow rate in air handling duct) IEC 60051-2 direct acting analogue electrical measuring instruments and their accessories - Part 2. Particular requirements for ammeters and voltmeters (Direct acting induction analogical electrical measuring devices and their accessories-Part 2: Special requirements for ammeters and voltmeters) IEC 60051-3 Direct acting analogue indicating electrical measuring instruments and their accessories Part 3. Particular requirements for power meters and reactive power meters Seeking (Direct acting indicating analogue electrical measuring instruments and their accessories-Part 3.

Special requirements for wattmeters and varmeters) IEC 60051-4 Direct acting analogue indicating electrical measuring instruments and their accessories - Part 4. Particular requirements for frequency tables (Direct acting indicating analogue electrical measuring instruments and their accessories - Part 4: Special requirements for frequency meters)

3 Terms and definitions

The following terms and definitions apply to this document.

Pipe cross-sectional area of the conduit section A_x