

ICS 27.010
CCS F 01



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

GB 28381-2026

Replacing GB 28381-2012

**Minimum allowable values of energy efficiency and energy
efficiency grades for blowers**

鼓风机能效限定值及能效等级

Issued on: March 31, 2026

Implemented on: April 1, 2027

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

For the purpose of this standard, subclause 5.3 is normative and the other clauses/subclauses are informative.

This standard is drafted in accordance with the rules of GB/T 1.1 - 2009.

This standard was proposed by the Department of Resource Conservation and Environment Protection of the National Development and Reform Commission.

This standard is under the jurisdiction of National Technical Committee of Energy Fundamentals and Management of Standardization Administration of China (SAC/TC 20).

Drafting organizations of this standard include Shenyang Blowers (Group) Co., Ltd, China National Institute of Standardization, Shaanxi Blowers (Group) Co., Ltd, Chongqing General Industry (Group) Co., Ltd, Nantong Dart-Pollrich Fan Co., Ltd, Shandong Zhangqiu Blower Co., Ltd, Zhejiang Shangfeng Industrial Holding Ltd, and Jiangsu Jintongling Fan Co., Ltd.

The chief drafting staffs of this standard include Chen Fengyi, Mei Yuanping, Zhao Yuejin, Zheng Hua, Li Baohou, Liao Yulong, Li Junhua, Xu Baohua, Zhu Mengbo and Cao Ping.

Minimum allowable values of energy efficiency and evaluating values of energy conservation for centrifugal blower

1 Scope

This standard specifies the minimum allowable values of energy efficiency, evaluating values of energy conservation, and test methods for centrifugal blowers.

This standard applies to single-stage dual-support low-speed centrifugal blowers; multi-stage low-speed centrifugal blowers; single-stage dual-support high-speed centrifugal blowers (including single-side impeller of dual-inlet blower); and multi-stage high-speed centrifugal blowers.

2 Normative references

The following normative documents are indispensable for application of this standard.

For dated normative documents, only the edition dated with the day applies to this standard. For undated normative documents, the latest edition (including all amendments) applies to this standard.

JB/T 2977 Technical terms for industry fans, turbo-blowers and compressors JB/T 3165 Thermodynamic performance test for centrifugal & axial blower and compressor

3 Terms and definitions

The following definitions apply to this standard, in addition to those defined in JB/T 3165 and in JB/T 2977. 3.1 Minimum allowable values of energy efficiency for centrifugal blower The minimum guaranteed allowable values of variable efficiency for centrifugal blower, under the specified standard conditions of testing.

4 Classification of products

By the number of stages, structure and number of revolutions, a centrifugal blower may be classified as single-stage cantilever-fitted low-speed centrifugal blower;

single-stage dual-support low-speed centrifugal blower; multi-stage low-speed

5.1 Basic requirements

Product design, manufacturing and quality of centrifugal blower shall comply with provisions of JB/T 7258.

5.2 The variable efficiency of centrifugal blower shall be calculated according to the following equation.

5.3.1 The highest polytropic efficiency etap₀₁, within the operating range of centrifugal blower is defined as the minimum allowable values of energy efficiency.

6 Test method

A centrifugal blower shall be tested for the performance in accordance with JB/T 3165.