

ICS 91.140.30
CCS P 48



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

GB/T 47621.2-2026

**Air intake filter systems for rotary machinery - Test methods -
Part 2: Endurance test in fog and mist environments**

旋转式空气动力设备进气过滤系统 试验方法 第2部分：耐湿性能试验
(English Translation)

Issued on: May 25, 2026

Implemented on: December 1, 2026

Issued by: State Administration for Market Regulation

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 2 of GB/T 47621 "Test Methods for Inlet Filtration Systems of Rotary Aerodynamic Equipment". GB/T 47621 the following sections have been released.

---Part 1: Static Filter Elements;

---Part 2: Moisture Resistance Test.

This document is equivalent to ISO 29461-2:2022 "Rotary aerodynamic equipment - Inlet filtration systems - Test methods - Part 2: Water".

Durability test of filters under fog and high humidity environments.

The following minimal editorial changes have been made to this document.

---The standard title has been changed to "Test Methods for Air Inlet Filtration Systems of Rotary Aerodynamic Equipment Part 2: Moisture Resistance Test";

---Update the terminology from ISO 29464:2017 to ISO 29464:2024;

---Corrected a printing error in the international standard, changing 101325 kPa in 9.2 to 101.325 kPa.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Housing and Urban-Rural Development of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of Heating, Ventilation, Air Conditioning and Purification Equipment (SAC/TC143).

Introduction

In the operation of rotary aerodynamic equipment, the air intake filtration system plays a crucial role in ensuring the cleanliness of the air medium.

The system faces significant challenges under complex climatic conditions, such as rain, smog, and other high-humidity environments where water is intercepted or condensed on the filter surface.

Liquid droplets in the pores of the filter media can significantly alter the filter's performance. For example, a sharp increase in the pressure differential of the intake filtration system can negatively impact power.

The safe operation of the equipment is significantly affected. GB/T 47621 aims to establish test methods for the air intake filtration system of rotary aerodynamic equipment.

The law is proposed to consist of two parts.

---Part 1: Static Filter Elements. The purpose is to establish the testing and classification of filter efficiency, and the relationship between filter resistance and dust holding capacity.

The determination of the system, the method and report for eliminating static electricity used to determine the minimum filtration efficiency.

---Part 2: Moisture Resistance Test. The purpose is to establish a test method for the moisture resistance of filter elements under laboratory conditions.

This method is used to evaluate the performance and performance change trends of filter

elements in high humidity and water mist environments.

To ensure the safety of the air intake filtration system in rotary aerodynamic equipment, users must consider both the filter's performance and its safety when evaluating and selecting a filter.

In addition to conventional performance indicators such as resistance, efficiency, and dust holding capacity, the filter's moisture resistance should also be carefully examined, especially in high-humidity environments and frequent rain and fog.

When used in a wet environment. To standardize the testing of filter moisture resistance, this document provides test results for filter moisture resistance under laboratory conditions.

method.

Rotary aerodynamic equipment intake filtration system Test Methods Part 2: Moisture Resistance Test

1 Scope

This document specifies the moisture resistance test for intake filters in stationary gas turbines, compressors, and internal combustion engines, among other rotating aerodynamic equipment.

The general requirements for testing, test bench, test materials, test procedures and test reports.

This document applies to the evaluation of the moisture resistance of air intake filters under laboratory conditions. Performance results obtained according to this document are not applicable to custom applications.

The quantity predicts the moisture resistance and service life of the air intake filter in actual use.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1.1

airflow rate

The volumetric flow rate of air passing through the filter per unit time.

[Source. ISO 29464:2024, 3.1.29] 3.1.2 testflowrate the air intake flow rate during the test.

[Source. ISO 29464:2024, 3.1.32] 3.1.3 pressure drop the pressure difference across the filter at the test flow rate.

Note: The unit is Pascal (Pa).

3.1.4

initial pressure drop Resistance of the clean filter at the test flow rate.