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

GB/T 25749.7-2012

**Safety of machinery -- Evaluation of the emission of airborne
hazardous substances -- Part 7: Test bench method for the
measurement of the pollutant concentration parameter**

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Foreword

GB/T 25749 "Assessment of Hazardous Substances in Airborne Airborne Discharge" consists of the following nine parts.

- Part 1. Selection of test methods;
- Part 2. Tracer gas method for measuring emissions of a given pollutant;
- Part 3. Test bench method for measuring the emission rate of a given pollutant;
- Part 4. Tracer method for measuring the efficiency of exhaust system capture;
- Part 5. Test bench method for measuring the quality separation efficiency of air purification systems without conduit exports;
- Part 6. Test bench method for measuring the quality separation efficiency of air purification systems with conduit outlet;
- Part 7. Test bench method for measuring pollutant concentration parameters;
- Part 8. Indoor method for measuring pollutant concentration parameters;

Part 9. Purification Index.

This part is part 7 of GB/T 25749.

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

This part is equivalent to the use of international standards ISO 29042-7..2010
"Assessment of Hazardous Substances Emissions from Mechanical Safety Airborne Article
7

Part. Test bench method for measuring pollutant concentration parameters ".

This part is equivalent to translation ISO 29042-7..2010. For ease of use, this section has made the following editorial changes.

- deleted the terms of the ISO /TC199 working area and the relationship between ISO 29042-7 and EN1903-8

content;

--- "0.5sqrtAC" in Figure 1 is changed to "0.5 AC", and other similar cases do the same.

This part of the National Machinery Safety Standardization Technical Committee (SAC/TC208) proposed and centralized.

This part of the drafting unit. Shenzhen, China Testing Technology Co., Ltd., Mechanical Science Research Institute, Nanjing Forestry University, optical machine Engineering Institute.

Introduction

The safety standard structure for the machinery sector is as follows.

- Class A standard (basic safety standard), given the basic concepts, design principles and general characteristics applicable to all machinery;

- Class B standard (general safety standard), a safety feature involving a mechanical or a wider range of safety devices.

- * Class B1, specific safety features (eg safety distance, surface temperature, noise) standard;

- * Class B2, safety devices (eg hands operated devices, interlocks, pressure sensitive devices, protective devices)

- Class C standards (machine safety standards) that specify a detailed safety requirement for a particular machine or group of machines.

According to GB/T 15706, this part belongs to class B standard.

The terms of this section may be supplemented or modified by category C standards.

For machines designed and constructed in accordance with Class C standards, if the provisions of Class C standards are inconsistent with Class A or Class B criteria,

Using Class C standards.

Mechanical safety

Assessment of airborne emissions of hazardous substances

Part 7. Test bench method for measuring pollutant concentration parameters

1 Scope

This part of GB/T 25749 specifies the use of test benches to measure the emissions of machinery in the air under given operating conditions

A Test Method for Mass Concentration Parameters. This method is only applicable to the emission of gases, vapors and respirable particles.

Wherever possible, the emission rate is determined in the test bed method (see GB/T 25749.3).

The pollutant concentration parameters of the measuring machine can be used to.

- a) assess the performance of the machine;
- b) assessment of machine improvements;
- c) comparison between groups of machines of the same intended use (this group is defined by function and processing material);
- d) classify the same set of machines according to the pollutant concentration parameters;
- e) Determine the technical level of the machine according to the pollutant concentration parameter.

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.

ISO 2602 Statistical analysis of the results of the data Estimated confidence interval
(Statisticalinterpretationoftestresults-

Estimationofthemean-Confidenceinterval)

ISO 12100 Mechanical Safety Design General Risk Assessment and Risk Reduction
(Safetyofmachinery-General

principlesfordesign-Riskassessmentandriskreduction

3 terms and definitions

ISO 12100 Definitions and the following terms and definitions apply to this document.

3.1

The concentration of pollutants in the tank is pollutantconcentrationparameterofthecabin

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The concentration of a given pollutant measured at a specified location near the machine.

Note. In this section, it is preferable to use a measuring section in the exhaust pipe.

4 principle

The principle of this measurement method is to operate the machine under controlled conditions in the test bed and to specify the position on the test bench (see 5.2)

Amount of contaminant at a specific exhaust flow rate. This concentration represents an emission indicator for the machine.