

ICS 19.060
CCS N 73



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

GB/T 44401-2024

Tri-axis simultaneous electrodynamic testing system

三轴同振电动振动试验系统

Issued on: August 23, 2024

Implemented on: March 1, 2025

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

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Composition of the triaxial vibration system	1
5 Basic parameters	2
6 Technical Requirements	2
6.1 Environment and working conditions	2
6.2 Uniaxial Electrodynamic Vibration Table	2
6.3 Sinusoidal vibration	2
6.4 Random Vibration	3
6.5 Other requirements	4
7 Inspection methods	4
7.1 Inspection instruments and equipment	4
7.2 Test load	4
7.3 Test conditions	4
7.4 Uniaxial Electrodynamic Shaker Test	4
7.5 Testing of various indicators	5
8 Inspection Rules	9
8.1 Factory Inspection	9
8.2 Type inspection	10
8.3 Decision Rules	10
9 Logo and packaging	10
9.1 Sign	10
9.2 Packaging	11
10 Random Files	11

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee for Standardization of Testing Machines (SAC/TC122).

This document was drafted by: Suzhou Sushi Testing Group Co., Ltd., Aerospace Science and Industry Defense Technology Research and Test Center, Beijing Aerospace Tianjin University, the Fifth Institute of Electronics of the Ministry of Industry and Information Technology, Shenyang University of Technology, Dalian Zhiding Technology Co., Ltd., China Machinery Testing Equipment Co., Ltd. Limited company.

The main drafters of this document are: Zheng Jianzhou, Wang Gang, Wu Sa, Zheng Shuli, Zhao Haining, Zhang Zhaoyu and Ren Xia.

Three-axis co-vibration electrodynamic vibration test system

1 Scope

This document specifies the basic parameters, technical requirements, inspection rules, marking, packaging and random documentation of the triaxial co-oscillation electrodynamic vibration test system.

This paper describes the inspection method of a triaxial co-oscillating electrodynamic vibration test system.

This document applies to the manufacture of triaxial co-oscillation electrodynamic vibration test systems (hereinafter referred to as "triaxial vibration systems").

2 Normative references

GB/T 191

GB/T 2298

GB/T 2611-2022

GB/T 5226.1-2019

GB/T 13310-2007

3 Terms and definitions

The terms and definitions defined in GB/T 2298 and the following apply to this document.

3.1

A test system consisting of at least three electric vibration generators capable of performing vibrations in three orthogonal axis directions simultaneously.

4 Composition of the triaxial vibration system

The triaxial vibration system consists of the following components.

- a) Electric vibration generator;
- b) power amplifier;
- c) vibration controller;
- d) Three-axis co-oscillation mechanical coupling device;

Note. A three-axis co-oscillation mechanical coupling device is a device that can synthesize unidirectional excitation in three orthogonal axis directions into three-axis simultaneous vibration.

- e) Other auxiliary devices.

The schematic diagram of the triaxial vibration system is shown in Figure 1.