

Translated English of Chinese Standard: GB/T6404.2-2005

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NATIONAL STANDARD OF THE
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GB/T 6404.2-2005 / ISO 8579-2:1993

Replacing GB/T 8543-1987

Acceptance code for gear units -

**Part 2: Determination of mechanical vibrations of gear
units during acceptance testing**

齿轮装置的验收规范

第 2 部分：验收试验中齿轮装置机械振动的测定

(ISO 8579-2:1993, IDT)

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Table of Contents

| | |
|--|----|
| Foreword..... | 3 |
| 1 Scope..... | 4 |
| 2 Normative references..... | 4 |
| 3 Terms and definitions | 5 |
| 4 General | 7 |
| 5 Instrumentation | 7 |
| 6 Vibration measurements | 9 |
| 7 Testing | 10 |
| 8 Acceptance values | 10 |
| 9 Test report..... | 13 |
| Annex A (Informative) Relationship between displacement, velocity and acceleration waveforms | 15 |
| Annex B (Informative) Effects of the system | 18 |
| Annex C (Informative) Vibration instruments and characteristic considerations | 20 |
| Annex D (Informative) Subjective vibration ratings | 23 |
| Bibliography | 25 |

Foreword

GB/T 6404 "Acceptance code for gear units" is divided into two parts:

- Part 1: Test code for airborne sound;
- Part 2: Determination of mechanical vibrations of gear units during acceptance testing.

This Part is Part 2 of GB/T 6404, which corresponds to ISO 8579-2:1993 "Acceptance code for gears - Part 2: Determination of mechanical vibrations of gear units during acceptance testing" (English edition).

This Part replaces GB/T 8543-1987.

This Part is identical to ISO 8579-2:1993. For ease of use, this Part has made the following editorial changes:

- Modify some layout formats according to Chinese habits;
- USE a decimal point "." to replace the comma "," as a decimal point;
- Delete the foreword of ISO 8579-2.

Annexes A, B, C and D of this Part are informative annexes.

This Part was proposed by China Machinery Industry Federation.

This Part shall be under the jurisdiction of National Technical Committee 52 on Gears of Standardization Administration of China.

This Part was drafted by Zhengzhou Research Institute of Mechanical Engineering.

Main drafters of this Part: Chen Aimin, Zhang Yuanguo, Wang Changlu, Wang Qi, Yang Xingyuan, Wang Changming, Wei Jianfang, Wang Dejun, Meng Lingzhao, Xie Xiaohui, Yang Pei.

The previous editions of the standard replaced by this Standard were released as follows:

- GB/T 8543-1987.

Acceptance code for gear units -

Part 2: Determination of mechanical vibrations of gear units during acceptance testing

1 Scope

This Part of GB/T 6404 specifies the methods for determining mechanical vibration of individually housed, enclosed, speed-increasing and speed-reducing gear units. It specifies methods for measuring housing and shaft vibrations, and the types of instrumentation, measurement methods and testing procedures for determining vibration levels. Vibration grades for acceptance are included.

It does not include torsional vibration measurements of a geared system.

This Part of GB/T 6404 applies only to a gear unit under test and operating within its design speed, load, temperature range and lubrication for acceptance testing at the manufacturer's facility.

The gear unit may be tested at another location if agreed upon and operated in accordance with the manufacturer's recommendations.

Other standards on vibration evaluation may be required for measuring gear unit vibration in field service.

This Part of GB/T 6404 does not apply to special or auxiliary drive trains, such as integrated gear-driven compressors, pumps, turbines, etc., and power take-off gears.

Note: Acceptance limits for tests of these types of equipment should be independently specified. However, if negotiated, this Standard or other appropriate standards may be applied to such equipment.

Special provisions may be required for vibration measurements: the type of measurement and acceptance level should therefore be agreed between the manufacturer and purchaser.

2 Normative references

The following documents contain provisions which, through reference in this Part of GB/T 6404, constitute provisions of this Standard. For the dated

references, their subsequent amendments (excluding corrections) or revisions do not apply to this Part. However, the parties who enter into agreement based on this Part are encouraged to investigate whether the latest editions of these documents are applicable. For undated reference documents, the latest editions apply to this Part.

ISO 2041:1990 Vibration and shock - Vocabulary

3 Terms and definitions

For the purposes of this Part of GB/T 6404, the definitions given in ISO 2041:1990, together with the following, apply.

3.1

Non-contact transducer

A transducer which converts a distance or displacement to an electrical signal that is proportional to the distance or displacement.

3.2

Acceleration

A vector that specifies the time-derivative of velocity (ISO 2041:1990, 1.3).

Note: See annex A.

3.3

Displacement; relative displacement

A vector quantity that specifies the change of position of a body, or particle, with respect to a reference frame (ISO 2041:1990, 1.1).

Note: See annex A.

3.4

Frequency response

The output signal expressed as a function of the frequency of the input signal. The frequency response is usually given graphically by curves showing the relationship of the output signal and, where applicable, phase shift or phase angle as a function of frequency (ISO 2041:1990, B.13).

3.5

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