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

GB/T 21487.1-2008

**Rotating shaft vibration measuring systems -- Part 1: Relative
and absolute sensing of radial vibration**
(English Translation)

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Foreword

GB/T 21487 Rotating shaft vibration measuring systems consists of the following parts.

- Part 1.Relative and absolute sensing of radial vibration
- Part 2.Signal processing

This part is Part 1 of GB/T 21487.

This part is identical to ISO 10817-1.1998 Rotating shaft vibration measuring systems

- Part 1.Relative and absolute sensing of radial vibration (English version).

This part is equivalent to the translation of ISO 10817-1.1998.

For ease of use, the following editorial modifications have been made to this part.

- "This part" has been used in place of "this international standard".
- The comma "," used as a decimal point has been replaced with the decimal point ".".
- The foreword to the international standard has been removed.
- For other international standards referenced in ISO 10817-1.1998, some international standards to which there are identical Chinese standards, then the

Chinese standards have replaced the international standards; some international standards to which there are no identical Chinese standards have been directly referenced.

Appendix A and Appendix B of this part are informative appendices.

This part was proposed by the China Machinery Industry Federation.

This part is under the jurisdiction of the National Technical Committee on Mechanical Vibration, Shock and Condition Monitoring of Standardization Administration of China.

This part was drafted by Zhengzhou Machinery Research Institute and Wuhan University of Technology.

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Rotating shaft vibration measuring systems - Part 1.

Relative and absolute sensing of radial vibration

1 Scope

This part of GB/T 21487 gives details of how to obtain reproducible measurement results in order to enable the monitoring and evaluation of shaft vibrations according to the GB/T 11348 series. As such, it is concerned primarily with the measurement of shaft vibrations for large machines (e.g. steam turbine generator sets, gas turbines, industrial turbosets, hydraulic machines).

This part of GB/T 21487 is applicable to radial vibration measuring systems on shafts, both for absolute and relative measurements. It covers the sensing device (i.e. transducer), signal conditioning, attachment methods and calibration procedures.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of GB/T 21487. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this part; however, parties who reach an agreement based on this part are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest

editions of the referenced documents apply to this standard.

GB/T 11348.1-1999 Mechanical vibration of non-reciprocating machines -

Measurements on rotating shafts and evaluation criteria - Part 1.General guidelines

(idt ISO 7919-1.1996)

GB/T 11348.5 Mechanical vibration of non-reciprocating machines -

Measurements on rotating shafts and evaluation criteria - Part 5.Machine sets in

hydraulic power generating and pumping plants (GB/T 11348.5-2002, idt ISO

7919-5.1997)

GB/T 14412 Mechanical vibration and shock - Mechanical mounting of

accelerometers (GB/T 14412-2005, ISO 5348.1998, IDT)

GB/T 20485.1 Methods for the calibration of vibration and shock transducers - Part

1 Basic concepts (GB/T 20485.1-2008, ISO 16063-1.1998, IDT)

JJF 1059-1999 Evaluation and Expression of Uncertainty in Measurement

(GUM.1995, IDT, BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML)

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