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

GB/T 11348.3-2011

Replacing GB/T 11348.3-1999

**Mechanical vibration -- Evaluation of machine vibration by
measurements on rotating shafts -- Part 3: Coupled industrial
machines**

机械振动 在旋转轴上测量评价机器的振动 第3部分：耦合的工业机器
(English Translation)

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Foreword

GB/T 11348 "mechanical vibration measurement and evaluation of the machine on the rotating shaft vibration" is divided into five parts.

--- Part 1. General;

--- Part 2. power greater than 50MW, rated operating speed of 1500r/min, 1800r/min, 3000r/min and 3600r/min land installed turbines and generators;

--- Part 3. Coupled industrial machines;

--- Part 4. Gas turbine sets with a sliding bearing;

--- Part 5. Hydroelectric power plants and pump stations.

This part of GB/T 11348 Part 3.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This Part replaces GB/T 11348.3-1999. Part of GB/T 11348.3-1999 The main difference between this and that.

--- Standard name from "shafts of rotating machinery vibration measurement and evaluation criteria - Part 3. Coupled industrial machines" to "mechanical vibration Dynamic Measurement Evaluation of the machine on the rotating shaft vibration - Part 3. Coupled industrial machines ";

--- Increased shaft vibration considerations during the evaluation of the pump (see Chapter 1, paragraph 3);

--- Increased use of shaft vibration evaluation criteria precautions (see paragraph 2 A.1);

--- Deleted the "baseline value" is defined (Chapter 3 of the 1999 edition);

--- Altered the "evaluation criteria" content (see Chapter 4 and Appendix A,, Chapter 6,

1999 edition of Chapter 5).

This section uses the translation method identical with ISO 7919-3:2009 "Mechanical vibration in rotating shaft vibration measurement and evaluation of the machine 3 Part 1. Coupled industrial machine "(in English).

Consistency correspondence between this part of international documents and normative references of our files are as follows.

--- GB/T 11348.1-1999 shafts of rotating machinery vibration measurement and assessment - Part 1. General (idt ISO 7919-1:1996).

For ease of use, this section made the following editorial changes.

--- References identical with ISO 10816-3 instead of GB/T 6075.3 "Mechanical vibration measurements on non-rotating parts Comments the price of the machine vibration - Part 3. 120r/min and 15000r/min between nominal power above 15kW rated speed in the field of industrial measuring machine "instead;

--- Delete references the ISO 10816-1, this standard is not referenced in the standard.

This part of the National mechanical vibration, shock and condition monitoring Standardization Technical Committee (SAC/TC53) and focal points.

This section drafted by. Hangzhou Steam Turbine Co., Ltd., Zhengzhou Machinery Research Institute, Hubei Electric Power Research Institute.

Introduction

This section GB/T 11348 sets out guidelines for measuring industrial machine radial shaft vibration coupling assessment based on previous experience of the proposed Price evaluation criteria such as machine vibration state guidelines.

General Principles of non-reciprocating machine shaft vibration measurement and evaluation has an overview of the ISO 7919-1.

Mechanical vibration measurement and evaluation of the machine on the rotating shaft Vibration - Part 3. Coupled industrial machines

1 Scope

This section GB/T 11348 gives the shaft vibration of industrial machinery bearings located at or near the coupling measured under normal operating conditions Application Guide of the evaluation criteria. These guidelines are based on the amplitude of vibration and any changes that may arise under steady-state operation of the two aspects to mention Out. The only value in accordance with the provisions of the evaluation is not used exclusively as vibration. Overall, the evaluation of machine vibration to take into account the state of

shaft vibration Dynamic and vibrational structure associated with two aspects.

This section applies to a maximum continuous rated speed at 1000r/min to 30000r/min within the range of range of coupling of the sliding bearing Industrial machinery. Machine size and power is not limited, including.

- Turbine;
- Turbine compressor;
- Turbo;
- Turbo fan;
- Electric Drive and coupling gear change;
- Rotodynamic pump (turbo pump).

This section provides information about the pump and ISO 10816-7 provide complementary information. In certain cases, the evaluation of the pump shaft vibration Conditions should be considered when the site operating conditions, the acceptance test when given in ISO 10816-7 and affect the bearing clearance.

This section does not apply to the output power of more than 50MW of installed power plant land Turbine (see ISO 7919-2), also does not apply for output power greater than or equal to 1MW hydroelectric generating set, pump unit (see ISO 7919-5).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

ISO 7919-1 Mechanical vibration of non-reciprocating machines - Measurement and Evaluation of the machine on the rotating shaft vibration - Part 1. General
(Mechanicalvibrationofnon-reciprocatingmachines-Measurementsonrotatingshaftsandevaluation criteria-Part 1. Generalguidelines)

3 Measurement Methods

The following measuring methods and instruments should be used in the description in ISO 7919-1.

Bearing for industrial machines typically measured with respect to the vibration, and therefore, unless otherwise indicated, refers to this part of the vibration displacement is always relative.

Since the rotation speed of the industrial machine is made up of high, usually non-contact

sensor is measured, and typically preferably used as the working speed 3000r/min and above the rotor member. In order to monitor overall vibration measurement system for frequency coverage should reach the highest work 2.5 times the speed. It should be noted that for fault diagnosis may be desirable to cover a wider range of frequencies.

4 Evaluation criteria

Vibration values, guidelines and operational changes in the boundaries of the magnitude of vibration is given in Appendix A.