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

GB/T 6075.1-2012

Replacing GB/T 6075.1-1999

**Mechanical vibration -- Evaluation of machine vibration by
measurements on non-rotating parts -- Part 1: General
guidelines**

机械振动 在非旋转部件上测量评价机器的振动 第1部分：总则

(English Translation)

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Foreword

GB/T 6075 "Mechanical vibration Evaluation of machine vibration measurements on non-rotating member" is divided into seven sections.

--- Part 1. General;

--- Part 2. more than 50MW of power, rated speed 1500r/min, 1800r/min, 3000r/min, 3600r/min Lu Mounted turbine and generator;

--- Part 3. rated power above 15kW and nominal speeds range between 120r/min to 15000r/min in the Field Test the amount of industrial machinery;

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

--- Part 5. hydroelectric and pumping plants;

--- Part 6. power of more than 100kW reciprocating machine;

--- Part 7. The rotary power pumps for industrial applications, including measurements on rotating shafts.

This part of GB/T 16075 Part of.

This section drafted in accordance with the rules of GB/T 1.1-2009 and GB/T 20000.2-2009

given.

This Part replaces GB/T 6075.1-1999 "Measurement and Evaluation of the machine on the non-rotating member of the mechanical vibration - Part 1. General then". This section compared with the GB/T 6075.1-1999, the main modifications are as follows.

- Modify the standard name from the original "Measurement and evaluation of the machine on a non-rotating member of the mechanical vibration - Part 1. General" change as "mechanical vibration evaluation machine vibration measurement - Part 1 on a non-rotating parts. General";
- Modify the previous edition of "vibration amplitude" in many translations, unified to "vibration values";
- Original standard "provisional value of the area boundary is given in Appendix B." Changed to "no clear classification for the type of machine Mitsuke Record B. "(See 5.3.1);
- Original criteria in Appendix B "provisional unit dedicated broadband vibration criteria" to "set area boundary values \u200b\u200binformative guide." increase

Table B.1 rms vibration velocity region boundaries A/B, B/C and C/D of the typical range.

1995 "Mechanical vibration measurement and evaluation of the machine vibration on non-rotating parts. This section uses the translation method using equivalent ISO 10816-1 Part 1. General "and amended parts ISO 10816-1:1995/Amd1.2009 (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 rotating machinery vibration measurement and evaluation - Part 1. General (idt, ISO 7919-1:1996) this part of the National mechanical vibration, shock and condition monitoring Standardization Technical Committee (SAC/TC53) and focal points.

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Introduction

GB/T 6075 is the basis for this part of the technical documentation. It provides a non-rotating (or reciprocating) machine components such as bearing motivated when the line of measurement, the measurement and evaluation of machine vibration General. For specific types of machines recommended measurement and evaluation criteria, in GB/T 6075 the other part is given.

For many machines on the non-rotating parts measure is sufficient to describe the health of

trouble-free work. But for the like comprising flexible rotor Some machines are not very appropriate measure only on non-rotating parts. In this case, it is necessary in the rotating and non-rotation of two parts Measurements or measurements on rotating parts only to monitor the machine. For such machines, this section expressed by the general provisions given in ISO 7919-1 General to supplement shaft vibration. If the two standard methods can be used, it should generally use a more restrictive.

Vibration measurements can be used for a variety of purposes, including routine operational monitoring, acceptance testing, diagnosis and analysis. This section provides only about transport General line monitoring and acceptance testing.

This section provides three basic measurement parameters (displacement, velocity, acceleration), and gives their limits. In accordance with the Appendix to this section Guidelines, in most cases, be able to ensure that the machines operate satisfactorily.

Measurement and evaluation of mechanical vibration on non-rotating member Machine vibration - Part 1. General

1 Scope

GB/T 6075 This section provides the measurement and evaluation of machine vibration on non-rotating or reciprocating machine parts and Party General Conditions law. The magnitude of vibration and the vibration change both expressed operation monitoring and evaluation criteria and acceptance tests related. First proposed evaluation criteria Consider first the machine safe and reliable long-term operation, taking into account the harmful effects of the related equipment is minimized. This section also provides the operational Limit.

Evaluation criteria in this section only with the vibration generated by the machine itself, but not with an external vibration passed to it has nothing to do.

This section does not consider the torsional vibration.

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 in a rotating shaft measurement and evaluation criteria - Part 1. General (Mechanical vibration of non-reciprocating machines-Measurements on rotating shafts and evaluation criteria- Part 1. General guidelines)

3 Measurements

This chapter describes the recommended for the evaluation of machine vibration measurement methods and operating conditions. Allow according to rules and regulations in Chapter 5 of the vibration evaluation.

3.1.1 Frequency Range

Vibration measurement should be broadband, in order to fully cover the spectrum of the machine.

Frequency range should be determined (for example, evaluated using a rolling bearing according to the type of machine to consider the integrity of the machines required frequency range Evaluation should be more than just a machine sliding bearings have a higher frequency).

Each specific type of machine measuring instruments frequency guidelines given in the relevant part of ISO 10816's.

Note 1: The previous speed and vibration intensity 10Hz ~ 1000Hz range of broadband vibrations [mm/s (rms)] related. However, for different types of aircraft it is available in different frequency ranges and measurements.

3.1.2 Measurements

For the purposes of this section, you can use the following measurements.

- a) vibration displacement in micrometers (μm) as a unit;
- b) vibration velocity in millimeters per second (mm/s) as a unit;
- c) vibration acceleration in meters per second squared (m/s^2) as a unit.