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

GB/T 22394.1-2015

Replacing GB/T 22394-2008

**Condition monitoring and diagnostics of machines -- Data
interpretation and diagnostics techniques -- Part 1: General
guidelines**

机器状态监测与诊断 数据判读和诊断技术 第1部分：总则

(English Translation)

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Foreword

GB/T 22394 "machine condition monitoring and diagnostic data interpretation and diagnostic techniques" is divided into the following three parts.

- Part 1. General;
- Part 2. Data-driven applications;
- Part 3. Based on the application of knowledge.

This section is GB/T Part of 122,394.

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

This Part replaces GB/T 22394-2008 "machine condition monitoring and diagnostic data interpretation and diagnostic techniques of general guidelines." Part of GB/T 22394-2008 and the main difference is this.

- The independent standard for the series to modify the standard Part 1;
- Changing the name of the standard, the original "machine condition monitoring and diagnostic data interpretation and diagnostic techniques of general guidelines" to "Machine condition monitoring and diagnostic data interpretation and diagnostics techniques - Part 1. General";

- Modify the normative references, deleting the original ISO 2041;
- Remove the ISO 13372 and GB/T 20 921 terms and definitions in the 2008 edition of the referenced;
- In Table 1 and the measurement parameters for the diagnosis of, for example, the newly added "Infrared thermal imaging," "Temperature," and so on;
- Increasing the general method of selecting diagnostic model in Figure 2, Appendices C and D;
- Increased Chapter 6 6.1 to 6.3;
- Rewritten sections 6.4 and 3 of the number;
- 2008 edition of the FIG. 3 to 4;
- 2008 version 6.2.6 to 6.5;
- Modified 6.4.2, 6.4.3 increases;
- Revised Appendix B;
- 2008 edition of Appendix D to Appendix G, and the table of note paper use formula expressions;
- Rewritten references, all original.

This section uses the translation method identical with ISO 13379-1:2012 "machine condition monitoring and diagnostics technology for data interpretation and diagnostics Part 1. General "(in English).

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

--- GB/T 20921-2007 machine condition monitoring and diagnostics Vocabulary (ISO 13372:2004, IDT) this part of the National mechanical vibration, shock and condition monitoring Standardization Technical Committee (SAC/TC53) and focal points.

This section is drafted. Zhengzhou Machinery Research Institute, Xi'an Thermal Power Research Institute, Southeast University.

Introduction

This section contains a set of baseline with respect to the state of the machine parameters to determine the general procedure. From the change relative to baseline values \u200b\u200bas well as alarm Comparison criteria used to indicate the abnormal behavior and alarm generation process, commonly referred to as condition monitoring. In addition, identify the cause of abnormal behavior, in order to Help determine the appropriate remedial measures in the process, often called the diagnosis.

Machine Condition Monitoring and Diagnosis Data interpretation and diagnostic techniques Part 1. General

1 Scope

This section GB/T 22394 given machine data interpretation and diagnostics techniques - General. It aims to.

- Let condition monitoring and diagnosis system for the user and the machine manufacturer in the field of diagnosis have a common concept;
- Allows users to prepare the necessary technical parameters for further diagnosis of the state of the machine;
- Give an adequate method to achieve a machine fault diagnosis.

Due to the general rules, so there is no list of machine types listed.

This section applies to all industrial machines such as turbines, compressors, pumps, generators, motors, blowers, gear box and fan.

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 13372 machine condition monitoring and diagnostics vocabulary
(Conditionmonitoringanddiagnosticsofmachines-Vo-cabulary)

3 Terms and Definitions

Terms and definitions defined in ISO 13372 apply to this document.

4.1 Diagnosis in operation and maintenance of the role

Operation and maintenance tasks when decisions play a very important role in diagnosis. In order to make effective fault diagnosis, should be in accordance with the machine may occur Development of diagnostic procedures. Accordingly, when preparing the machine condition monitoring and diagnostic systems, it is strongly recommended that a preliminary study.

4.2 Determine the diagnostic requirements

Principles of the preliminary study are shown in Figure 1. There is a conscious choice "V" indicates a high degree of concern (maintenance. machines, risk assessment) and "low" Follow (measurements. monitoring, periodic testing, data processing).

Left branch corresponding to Fig preliminary study, the necessary data for a particular machine ready condition monitoring and diagnostics. Right branch corresponds to condition monitoring and diagnostic activities, usually begins after the machine has been commissioned to carry out diagnostic work. Each level of the preliminary design stage (left side) and use phase (Right) components.

Diagnosis of the general steps include.

- a) analysis of the whole process of machine availability, maintainability and Criticality;
- b) lists the major components and their functions;