
**Condition monitoring and diagnostics of
machines — General guidelines on data
interpretation and diagnostics techniques**

*Surveillance et diagnostic d'état des machines — Lignes directrices
générales sur l'interprétation des données et les techniques de
diagnostic*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13379 was prepared by Technical Committee ISO/TC 108, *Mechanical vibration and shock*, Subcommittee SC 5, *Condition monitoring and diagnostics of machines*.

Introduction

This International Standard contains general procedures that can be used to determine the condition of a machine relative to a set of baseline parameters. Changes from the baseline values and comparison to alarm criteria are used to indicate anomalous behaviour and to generate alarms: this is usually designated as condition monitoring. Additionally, procedures that identify the cause(s) of the anomalous behaviour are given in order to assist in the determination of the proper corrective action: this is usually designated as diagnostics.

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Condition monitoring and diagnostics of machines — General guidelines on data interpretation and diagnostics techniques

1 Scope

This International Standard gives guidance for data interpretation and diagnostics of machines. It is intended

- to allow the users and manufacturers of condition monitoring and diagnostics systems to share common concepts in the fields of machine diagnostics,
- to enable users to prepare the necessary technical characteristics that will be used for the further diagnosis of the condition of the machine, and
- to give an appropriate approach to achieve a diagnosis of machine faults.

Since it gives general guidelines, a list of the machine types addressed is not included. However, the machine sets covered by this International Standard will normally include industrial machines such as turbines, compressors, pumps, generators, electrical motors, blowers and fans.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2041, *Vibration and shock — Vocabulary*

ISO 13372, *Condition monitoring and diagnostics of machines — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2041, ISO 13372 and the following apply.

3.1 alarm

operational signal or message designed to notify personnel when a selected anomaly, or a logical combination of anomalies, requiring corrective actions is encountered

NOTE An alarm is a more severe anomaly zone than an alert and should be identified with a red indicator.

3.2 anomaly

irregularity or abnormality in a system