INTERNATIONAL STANDARD

ISO 7919-3

Second edition
2009-02-01

AMENDMENT 1
2017-07

Mechanical vibration — Evaluation of machine vibration by measurements on rotating shafts —

Part 3: Coupled industrial machines

AMENDMENT 1

Vibrations mécaniques — Évaluation des vibrations des machines par mesurages sur les arbres tournants —

Partie 3: Machines industrielles couplées

AMENDEMENT 1

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 108, *Mechanical vibration, shock and condition monitoring*, Subcommittee SC 2, *Measurement and evaluation of mechanical vibration and shock as applied to machines, vehicles and structures*.

A list of all parts in the ISO 7919 series can be found on the ISO website.

Mechanical vibration — Evaluation of machine vibration by measurements on rotating shafts —

Part 3:
Coupled industrial machines

AMENDMENT 1

Foreword

Replace the complete text of the Foreword by the following:

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This second edition cancels and replaces the first edition (ISO 7919-3:1996), of which it constitutes a minor revision.

A list of all parts in the ISO 7919 series can be found on the ISO website.

Introduction, second paragraph

Replace the reference to "ISO 7919-1" with "ISO 20816-1".

Clause 1, second paragraph

Replace the paragraph with the following:

This part of ISO 7919 applies to coupled industrial machines with fluid-film bearings, having maximum continuous rated speeds in the range 1 000 r/min to 30 000 r/min and not being limited by size and power (with certain restrictions), comprising

— steam turbines and generators with outputs less than or equal to 40 MW;

— steam turbines and generators with outputs greater than 40 MW and speeds other than 1 500 r/min, 1 800 r/min, 3 000 r/min or 3 600 r/min (although generators seldom fall into this category);

— rotary compressors;

— industrial gas turbines with outputs less than or equal to 3 MW;

— turbofans;

— electric drives and associated gears, where relevant;

— rotodynamic pumps (turbo pumps).

The information relating to pumps provided in this part of ISO 7919 complements that given in ISO 10816-7. In particular, the conditions for *in-situ* operation, performing acceptance tests and the influence of bearing clearance given in ISO 10816-7 shall be taken into account when evaluating the shaft vibration of pumps.

Third paragraph

Replace the paragraph with the following:

The following are excluded from this part of ISO 7919:

— steam turbines and/or generators with outputs greater than 40 MW and speeds of 1 500 r/min, 1 800 r/min, 3 000 r/min or 3 600 r/min (see ISO 20816-2);

— gas turbine sets with outputs greater than 3 MW (see ISO 7919-4 and ISO 20816-2);

— machine sets in hydraulic power generating and pump-storage plants (see ISO 20816-5);

— rotodynamic pumps including integrated electric motors, i.e. where the impeller is mounted directly on the motor shaft or is rigidly attached to it (see ISO 10816-7);

— submerged motor-pumps;

— reciprocating pumps;

— rotary positive displacement compressors (e.g. screw compressors);

— reciprocating compressors;

— wind turbines.

Clause 2

Replace this clause with the following:

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 20816-1, *Mechanical vibration — Measurement and evaluation of machine vibration — Part 1: General guidelines*

Clause 3, first paragraph

Replace the reference to "ISO 7919-1" with "ISO 20816-1".

Clause 4, second paragraph

Replace the reference to "ISO 7919-1" with "ISO 20816-1".

A.2.2, NOTE

Replace the reference to "ISO 7919-1" with "ISO 20816-1".

A.3, fourth paragraph

Replace the reference to "ISO 7919-1" with "ISO 20816-1".

Bibliography

Replace the references with the following:

[1] ISO 2041, *Mechanical vibration, shock and condition monitoring — Vocabulary*

[2] ISO 10816-3, *Mechanical vibration — Evaluation of machine vibration by measurements on non-rotating parts — Part 3: Industrial machines with nominal power above 15 kW and nominal speeds between 120 r/min and 15 000 r/min when measured in situ*

[3] ISO 10816-7, *Mechanical vibration — Evaluation of machine vibration by measurements on non-rotating parts — Part 7: Rotodynamic pumps for industrial applications, including measurements on rotating shafts*

[4] ISO 10817-1, *Rotating shaft vibration measuring systems — Part 1: Relative and absolute sensing of radial vibration*

[5] ISO 13373-1, *Condition monitoring and diagnostics of machines — Vibration condition monitoring — Part 1: General procedures*

[6] ISO 13373-2, *Condition monitoring and diagnostics of machines — Vibration condition monitoring — Part 2: Processing, analysis and presentation of vibration data*

[7] ISO 13373-3, *Condition monitoring and diagnostics of machines — Vibration condition monitoring — Part 3: Guidelines for vibration diagnosis*

[8] ISO 20816-2, *Mechanical vibration — Measurement and evaluation of machine vibration — Part 2: Land-based gas turbines, steam turbines and generators in excess of 40 MW, with fluid-film bearings and rated speeds of 1 500 r/min, 1 800 r/min, 3 000 r/min and 3 600 r/min*

[9] ISO 20816-5, *Mechanical vibration — Measurement and evaluation of machine vibration — Part 5: Machine sets in hydraulic power generating and pump-storage plants*

[10] ISO 21940-11, *Mechanical vibration — Rotor balancing — Part 11: Procedures and tolerances for rotors with rigid behaviour*

[11] ISO 21940-12, *Mechanical vibration — Rotor balancing — Part 12: Procedures and tolerances for rotors with flexible behaviour*

[12] ISO 21940-31, *Mechanical vibration — Rotor balancing — Part 31: Susceptibility and sensitivity of machines to unbalance*

