
**Mechanical vibration — Vibration of
rotating machinery equipped with active
magnetic bearings —**

**Part 1:
Vocabulary**

AMENDMENT 1

*Vibrations mécaniques — Vibrations de machines rotatives équipées de
paliers magnétiques actifs —*

Partie 1: Vocabulaire

AMENDEMENT 1



Reference number
ISO 14839-1:2002/Amd.1:2010(E)

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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Foreword

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Amendment 1 to ISO 14839-1:2002 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*.

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Mechanical vibration — Vibration of rotating machinery equipped with active magnetic bearings —

Part 1: Vocabulary

AMENDMENT 1

Page v, Foreword

Add the following to the list of parts:

- Part 3: Evaluation of stability margin

The following part is under preparation:

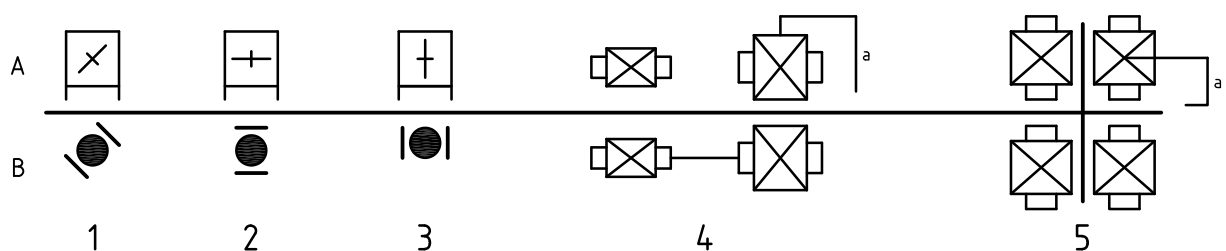
- Part 4: Technical guidelines

Page 1, Clause 1

After “active magnetic bearings” insert “and touch-down bearings”.

Page 1, Clause 1

Replace Figure 1 by the following.



Key

- A simplified symbols (see ISO 8826-2)
- B conventional symbols
- 1 angular ball bearing
- 2 deep-groove ball bearing
- 3 thrust ball bearing
- 4 radial active magnetic bearing
- 5 axial active magnetic bearing
- a With sensor.

Page 2, 1.4, definition

Replace “equipment supporting” by “means to support”.

Page 3, 1.8, term

Replace “based” by “biased”.

Page 4, 1.9, definition

Insert “horizontal” before “rotor”.

Page 4, 1.9, Figure 4, Key 1

Replace “core” by “coil”.

Page 6, 1.11, term and definition

Replace the existing text by the following, but retain references to figures.

nominal magnetic gap

distance between the magnetic materials of the rotor and the stator inside the AMB when the journal centre of the rotor is located in the clearance centre of the bearing stator

Page 16, 4.1, Figure 12

Replace the existing legend by the following.

Figure 12 — Current-force characteristic; linearization by AMB bias current I_0 for a typical 2-quadrant power amplifier

Page 20, 5.7, term, definition, and reference to figure

Replace the existing text by the following.

operation mode of AMB power amplifier

characteristic of AMB power amplifiers:

- 2-quadrant: output voltage positive or negative while current always positive;
- 4-quadrant: output voltage positive or negative while current arbitrarily positive or negative

See Figure 12.

Page 21, 5.7, Figure 14

Delete this figure and renumber all following figures and their references.

Page 24, 6.1, term and definition

Replace the existing text by the following.

touch-down bearing

bearing installed in the magnetic bearing rotor system, which is designed to limit the rotor motion and to prevent contact with the AMB stator or rotor surface

NOTE Other designations include: auxiliary bearing, emergency bearing, retainer bearing, back-up bearing, catcher bearing.

Page 26, Bibliography

Update the title of ISO 2041 to read "*Mechanical vibration, shock and condition monitoring — Vocabulary*"

Add the following entry.

[3] ISO 8826-2, *Technical drawings — Rolling bearings — Part 2: Detailed simplified representation*

Page 27, Alphabetical index

Delete the following entry.

AMB clearance 1.11

Add the following entries.

back-up bearing 6.1

catcher bearing 6.1

nominal magnetic gap 1.11

Replace "permanent-magnet-based AMB" by "permanent-magnet-biased AMB".

Replace "operation class of AMB power amplifier" by "operation mode of AMB power amplifier".

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Price based on 3 pages