
**Vibration-generating machines —
Guidance for selection —**

**Part 2:
Equipment for dynamic structural
testing**

*Générateurs de vibrations — Lignes directrices pour la sélection —
Partie 2: Moyens pour les essais dynamiques*

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Foreword

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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).

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This document was prepared by Technical Committee ISO/TC 108, *Mechanical vibration, shock and condition monitoring*, Subcommittee SC 6, *Vibration and shock generating systems*.

A list of all parts in the ISO 10813 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

A proper selection of vibration generating system, when purchasing new test equipment or updating existing equipment for the purposes of a specific test or when choosing between the equipment proposed by a test laboratory or even selecting a laboratory which offers its service to carry out such a test, is very important. When making this type of selection, several factors should be considered simultaneously, as follows:

- the type of the test to be carried out (e.g. environmental testing, normal and/or accelerated, dynamic structural testing, diagnosis, calibration, etc.);
- the motions to be generated during the test;
- the test conditions (e.g. single or multiple excitations, one mode of vibration or combined vibration, single or combined test, for example, dynamic plus climatic, etc.);
- the objects to be tested and their mounting.

This document deals only with equipment intended to be used for dynamic structural testing, and selection procedures are predominantly designed to meet the requirements of this testing. However, specific test conditions and the specific object to be tested can significantly influence the selection.

If the equipment is expected to be used for different types of tests, all possible applications should be accounted for when selecting. Thus, if the vibration generator is acquired to be applied during both environmental and dynamic structural testing, ISO 10813-1 and this document should be used simultaneously. In this document, it is presumed that a system can be selected if it enables to swing the test object up to a specified level. To generate an excitation without undesired motions, a suitable control system should be used. The selection of a control system is not considered in this document.

Vibration generating systems are complex machines, so the correct selection always demands a certain degree of engineering judgement. Consequently, the purchaser, when selecting the vibration test equipment, can resort to the help of a third party. In such a case, this document can help the purchaser to ascertain if the solution proposed by the third party is acceptable or not. Designers and manufacturers can also use this document to assess the market environment.

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