INTERNATIONAL STANDARD 2371

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Field balancing equipment — Description and evaluation

Appareils pour l'équilibrage in situ — Description et caractéristiques

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2371 was drawn up by Technical Committee ISO/TC 108, *Mechanical vibration and shock,* and circulated to the Member Bodies in June 1971.

It has been approved by the Member Bodies of the following countries :

Austria	Ireland	Sweden
Belgium	Japan	Switzerland
Egypt, Arab Rep. of	Netherlands	United Kingdom
France	New Zealand	U.S.A.
Germany	South Africa, Rep. of	U.S.S.R.

No Member Body expressed disapproval of the document.

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0 INTRODUCTION

IEC Publications 184, *Methods for specifying the characteristics of electro-mechanical transducers for shock and vibration measurements,* and 222, *Methods for specifying the characteristics of auxiliary equipment for shock and vibration measurement,* have been taken into consideration in the preparation of this International Standard where applicable. Components forming part of the equipment and system shall meet the requirements of the relevant IEC Publications where applicable.

1 SCOPE AND FIELD OF APPLICATION

This International Standard gives rules for the description and evaluation of equipment for field balancing. Specifically, it outlines information that the manufacturer of the equipment should provide to permit the evaluation of such equipment for meeting individual field balancing requirements. Additionally, it may assist the user in specifying his requirements to the manufacturer.

This International Standard applies to portable field balancing equipment which provides adequate information for determining both the amount-of-unbalance and its angular location in one or more planes.

It does not apply to general vibration measuring equipment, nor does it specify acceptable balancing criteria.

2 DEFINITION

For the purpose of this International Standard the following definition shall apply.

field balancing : The process of balancing a rotor in its own bearings, other than in a balancing machine. Under such conditions, the information required to perform balancing is derived from measurements of vibratory forces or motions of the supporting structure and/or rotor caused by rotor unbalance.

3 DESCRIPTION OF EQUIPMENT

3.1 A description of the principles of operation shall be given for all major components of the equipment and system, and may include the following items.

3.1.1 Transducer (mechanical, electro-dynamic, piezo-electric, seismic, magnetostrictive, proximity, etc.).

3.1.2 Filter (resonant mechanical, active or passive networks, wattmetric, etc.).

3.1.3 Amplitude indicator (mechanical, electro-mechanical, optical, electronic, etc.).

3.1.4 Angle indicator (mechanical, electrical, stroboscopic, optical, electronic, etc.).

3.1.5 Frequency or speed indicator (resonant mechanical, electro-mechanical, electronic, etc.).

3.1.6 Other special devices (plane separator, calibrator, vibration analyser, etc.).

3.2 A physical description of the system indicating dimensions, mass, power requirements and power consumption shall be given. If an external power source is required, the source voltage, frequency range(s) and number of phases over which the equipment will operate within system performance specifications shall be stated. If the equipment is capable of operation from more than one power source, the method of changing from one to another shall be described.

3.3 If a specially regulated power source voltage is required, the percentage regulation required shall be specified and recommendations given as to the most effective method of obtaining this regulation.

3.4 For battery-operated equipment, the voltage, capacity (ampere-hours), operating life, testing means and charging procedure (if applicable) shall be described.

4 DESCRIPTION OF PROCEDURES

4.1 System operation

Typical balancing procedures shall be described in such a manner as will clearly explain the operation of the equipment. This description shall include the following items.