INTERNATIONAL STANDARD

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Assembly tools for screws and nuts — Hand torque tools — Requirements and test methods for design conformance testing, quality conformance testing and recalibration procedure

Outils de manœuvre pour vis et écrous — Outils dynamométriques à commande manuelle — Exigences et méthodes d'essai pour vérifier la conformité de conception, la conformité de qualité et la procédure de réétalonnage

Reference number
ISO 6789:2003(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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 6789 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screw and nuts, pliers and nippers*.

This third edition cancels and replaces the second edition (ISO 6789:1992), which has been technically revised, in particular by the addition of a new Clause 3, subclauses 5.1, 5.2 and 5.3, Figure 3 and Figure B.7. Further, Figures 1 and 2 have been revised.

Introduction

The revision of the previous edition of ISO 6789 became necessary, because the requirements of ISO 9001, concerning the procedure of the control of test devices, as well as the introduction of calibration services, unambiguously need guidelines in ISO 6789 for calibration and recalibration of hand torque tools.

Further, information about recalibration has been included in the present new issue.

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1 Scope

This International Standard specifies the requirements for, and describes the test methods and marking of, hand torque tools used for controlled tightening of bolted connections.

It applies to torque tools in accordance with Clause 4, in particular to indicating and setting torque wrenches in accordance with numbers 258 and 259 of ISO 1703:1983.

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.

GUM, *Guide for evaluation of uncertainty in measurement*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
design conformance testing
those requirements to be met during design or modification of hand torque tools (see 5.1)

3.2
quality conformance testing
those requirements to be met during manufacture of hand torque tools (see 5.2)

3.3
calibration
set of operations that establish, under specified conditions, the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values realized by standards

[VIM:1993, definition 6.11]

NOTE For the specific purposes of this International Standard, the following definition may apply:

set of operations that establish, under specified conditions, the relationship between values indicated or signalled by a torque tool, and the corresponding values indicated by a calibration device

3.4
recalibration
those requirements to be met during calibration of hand torque tools after a defined period of use (see 5.3)