



ISO 8636-1

**Machine tools — Test conditions for
bridge-type milling machines —**

Part 1:
**Testing of the accuracy of fixed
bridge (portal-type) machines**

*Machines-outils — Conditions d'essai des machines à fraiser à
portique —*

Partie 1: Contrôle de l'exactitude des machines à portique fixe

**Third edition
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This document was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 2, *Test conditions for metal cutting machine tools*.

This third edition cancels and replaces the second edition (ISO 8636-1:2000), which has been technically revised.

The main changes are as follows:

- references in Observations have been updated to ISO 230-1:2012, ISO 230-2:2014, and ISO 230-7:2015,
- the former [Clause 3](#) “Definitions and descriptions” has been renamed “Terms and definitions”,
- the content of the original [subclause 3.2](#) has been moved to a new [Clause 4](#) “Classification and description of fixed bridge-type milling machines”, which now also includes the content of original [Clause 4](#) “Terminology and designation of axes” which has been revised to better represent current technology,
- preliminary remarks subclauses have been revised to be consistent with the latest revisions of machine-tool specific standards,
- tolerances for tests related to long axes (with travel lengths up to 10 000) have been introduced,
- tests for straightness and angular errors of Z-axis motion have been added,
- tests for straightness and angular errors of cross-rail W-axis motion have been added,
- tests for parallelism of the V-axis motion to Y-axis motion have been added,
- tests for geometric accuracy of axis of rotation have been added in [Annex A](#),
- a new [Annex B](#) has been added to provide additional information related to tests for straightness of the X'-axis motion in the vertical ZX plane, E_{ZX} , to account for non-rigid body behaviour of large tables,
- the test for table flatness (formerly G9) has been deleted because the table surface is not normally used as a reference for the orientation of the workpiece, and, for tests made during the working life of the

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- the tests for tilting spindle heads (formerly G15 and P7) have been deleted as such heads are not in the scope of this document,
- the machining tests have been excluded considering that such tests are typically the object of agreement between manufacturer/supplier and user, (possibly) including tests that are specified in ISO 10791-7.

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