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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45863-2025

**Test conditions for numerically controlled vertical surface
broaching machines - Testing of the accuracy**

数控立式外拉床检验条件 精度检验

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents"

Drafting.

This document is equivalent to ISO 19744:2020 "Test conditions for CNC external broaching machines - Accuracy test - Vertical external broaching machines".

The following minimal editorial changes have been made to this document.

--- To coordinate with the existing standard, the name of the standard is changed to "Test Conditions and Accuracy Test of CNC Vertical External Broaching Machines".

1 Scope

This document specifies the naming of components and axes, geometric accuracy inspection, CNC linear axis and rotary axis of ordinary precision CNC vertical external broaching machine.

Positioning accuracy and repeatability inspection, working accuracy inspection and corresponding tolerance requirements, etc.

This document describes the concepts, configurations, and features of CNC vertical broaching machines used for machining turbine disc grooves and recesses, and provides relevant terminology. and the name of the axis.

This document is applicable to the accuracy inspection of CNC vertical external broaching machines for machining turbine disc grooves and recesses, and is not applicable to the operation and maintenance of CNC vertical external broaching machines.

Rotation inspection (such as vibration, abnormal noise, creep of moving parts, etc.) and parameter inspection (such as speed, feed rate, etc.).

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 17421.1-2023 General principles for inspection of machine tools Part 1: Geometric accuracy of machine tools under no-load or quasi-static conditions (ISO 230-1:2012, IDT)

GB/T 17421.2-2023 General rules for inspection of machine tools Part 2: Determination of positioning accuracy and repeatability of CNC axes (ISO 230-2:2014, IDT)

Note: GB/T 17421.7-2016 General rules for inspection of machine tools Part 7: Geometric accuracy of rotary axes (ISO 230-7:2006, IDT)

3 Terms and Definitions

The terms and definitions defined in GB/T 17421.1-2023, GB/T 17421.2-2023, ISO 230-7:2015 and the following apply This document.

The URLs for terminology databases used for standardization maintained by ISO and IEC are as follows.

3.1

The process of removing material by linear cutting by pushing or pulling a broach (3.2) across an outer surface.

NOTE The principal cutting motion is the relative translation of the broach with respect to the non-rotating workpiece, where the cutting forces are generated by the motion of the broach or the workpiece.

3.2 Broach

A cutting tool having multiple transverse cutting edges, each of increasing size.

3.3 Broaching machine

A machine tool for broaching.