

ICS 25.080.01

CCS J 50



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

GB/T 9061-2025

Replacing GB/T 9061-2006

Metal-cutting machine tools - General specifications

金属切削机床 通用技术规范

Issued on: October 5, 2025

Implemented on: May 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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1 Scope

GB/T 9061-2025 is the Chinese national standard covering the requirements every machine tool has to meet whatever it cuts - the castings and the guideways, the spindle and the drives, the electrical and hydraulic systems, the guarding and the safety devices, the appearance and the documentation supplied with it. It replaces GB/T 9061-2006, in force from 1 May 2026. It was issued on 5 October 2025 and has been in force since 1 May 2026, replacing GB/T 9061-2006. The document is under the responsibility of the China Machinery Industry Federation. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the basic and common technical requirements for metal- cutting machine tools (hereinafter referred to as "machine tools", including machine tool accessories, etc.). This document applies to the design, manufacture, inspection, and acceptance of machine tools.

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.

GB/T 191, Packaging and storage marks

GB/T 1348, Spheroidal graphite iron castings

GB/T 3167, Metal-cutting machine tools -- Graphical symbols for operation indications

GB/T 3168, Numerical control of machines. Symbols

GB/T 5226.1, Electrical safety of machinery -- Electrical equipment of machines -- Part

3 Terms and definitions

This document does not contain any terms or definitions that need to be defined.

4.1 Design requirements

4.1.1 Model, name, and parameters The model and name of machine tools shall be compiled and given in accordance with the relevant provisions of GB/T 6477, GB/T 15375, JB/T 2326, and JB/T 4168. The naming of coordinate systems and motion directions of CNC machine tools shall conform to the provisions of GB/T 19660. The parameters of machine tools shall conform to the parameter standards for each type of machine tool. The type and dimensions of the connection parts between the machine tool and tools, fixtures, accessories, etc., shall conform to the provisions of relevant standards.

4.1.2 Layout and design

4.1.2.1 The machine tool's design shall be aesthetically pleasing, with a balanced and harmonious external structure and color scheme. Exposed accessories and components shall be coordinated with the overall machine design.

4.1.2.2 The layout of all components and devices of the machine tool shall be reasonable and the height shall be appropriate to facilitate the operator's observation of the processing area. The machine tool shall have convenient chip removal.

4.1.2.3 The machine tool operating interface shall meet human-machine interaction requirements and be easy to understand and use. Handwheels, handles, and buttons, etc., shall be reasonably arranged, convenient to operate, and comply with relevant standards.

4.1.2.4 Machine tools shall be easy to assemble, disassemble, adjust, and maintain. Machine tools transported as a whole or in parts shall meet the requirements for transportation and loading.

4.1.3 Performance, function, and structure The performance, function, and structure of machine tools shall meet the user's requirements. The design of machine tools shall fully consider serialization, generalization, standardization, modularization, digitalization, intelligence, greening, and energy saving.

4.1.4 System The design and selection of the mechanical, electrical, CNC, hydraulic,

pneumatic, lubrication, cooling, chip removal, and measurement systems of machine tools shall comply with relevant standards and regulations. They shall be matched with the functions and performance of the machine tool to ensure that the machine tool has good performance, safety and reliability, and is easy to use and maintain.

4.1.5 Accessories and tools Machine tools shall be equipped with accessories and tools to ensure basic performance. Special accessories that enhance the performance of the machine tool shall be supplied according to agreement and user requirements. Accessories and tools shall preferably be marked with appropriate markings or specifications. Standard accessories and tools for machine tools shall all ensure interchangeability and usability of connection parts.

4.1.6 Safety and hygiene The safety protection of machine tools shall meet the requirements of Level 3 safety protection. The noise, vibration, and operating methods of machine tools shall not cause harm or impact on human health. The safety and hygiene of machine tools shall comply with the provisions of GB 15760 and relevant product safety standards.

4.1.7 Nameplate Nameplates on machine tools shall conform to the relevant provisions of GB/T 13306. The content on the nameplates shall be correct and comply with relevant regulations. The Chinese characters used shall be standard Chinese characters. The graphic symbols for operation instructions shall conform to the provisions of GB/T 3167, GB/T 3168 and technical documents.

4.1.8 Accompanying technical documents The accompanying technical documents for machine tools shall include an instruction manual, a certificate of conformity, and a packing list. The method for preparing these accompanying technical documents shall preferably comply with the provisions of GB/T 23571.

4.2.1 Processing quality

4.2.1.1 The material grades and mechanical properties of all parts on the machine tool shall comply with the relevant standards. The machining of parts shall comply with the provisions of standards, drawings, and process documents.

4.2.1.2 The quality of gray cast iron parts shall conform to the requirements of JB/T 3997. The quality of ductile iron parts shall conform to the requirements of GB/T 1348.

4.2.1.3 The quality of artificial granite shall comply with the provisions of GB/T 32667. The quality of mineral materials shall comply with the provisions of relevant standards.

4.2.1.4 The quality of heat-treated parts shall comply with the relevant standards.

4.2.1.5 The quality of machined parts shall comply with the provisions of GB/T 25376.

4.2.1.6 The quality of welded parts shall conform to the requirements of GB/T 23570.

4.2.2 Assembly quality

4.2.2.1 Whole machine The assembly quality of machine tools shall comply with the requirements of GB/T 25373. The cleanliness during machine tool assembly shall comply with relevant standards. It shall preferably be measured according to the methods specified in GB/T 25374.

4.2.2.2 System 4.2.2.2.1 Electrical system The electrical system of the machine tool shall meet the electrical control requirements, operate safely and stably, and comply with the provisions of GB/T 5226.1. 4.2.2.2.2 CNC System The CNC system of the machine tool shall be reliable and operate safely and stably after being connected to the host machine. It shall comply with the relevant provisions of GB/T 26220. 4.2.2.2.3 Hydraulic, pneumatic, cooling, and lubrication systems Hydraulic, pneumatic, cooling, and lubrication systems shall each comply with the following relevant regulations.

4.2.4 Service life

4.2.4.1 Important and easily worn guideways of machine tools shall be made wear-resistant and meet the requirements of relevant standards.

4.2.4.2 Corresponding measures shall be taken to improve the service life of major components such as machine tool spindles, lead screws, worm gear pairs, cam pairs, and high-speed and heavy-duty gear pairs.

4.2.4.3 Protective devices shall be installed on machine tool spindles, guide rails, lead screws, and other parts that are easily worn by dust and debris.

5.1 Inspection method

5.1.1 Machine tool inspection is divided into type test and exit-factory inspection.

5.1.2 Machine tools shall be shipped only after passing inspection at the manufacturer. In cases where a large number of special blanks are required for the inspection of certain machine tools, or where the manufacturer does not have extra-large or extra-heavy workpieces, the inspection may be carried out at the machine tool's place of use with the user's consent.

5.1.3 Type test shall be conducted in any of the following circumstances.

- a) During the trial production of a new product;
- b) During the finalization of a new product design;
- c) When the machine tool structure and performance have undergone significant changes compared to the basic model.