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

GB/T 14331-2025

Replacing GB/T 14331-2017

Automatic spring winding machine - Testing of the accuracy

自动卷簧机 精度

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 14331-2017 "Precision of Automatic Spring Coiling Machines". Compared with GB/T 14331-2017, except for structural adjustments and... Aside from editorial changes, the main technical changes are as follows:

- Added normative reference to GB/T 36484 (see Chapter 3);
- The tolerance requirement for the overlap of the lower feed shaft shoulder support surface has been changed (see 5.1.1.2, 4.1.1.2 in the 2017 version);
- The inspection methods for radial and end face runout of the lower feed shaft have been modified (see 5.1.3, 4.1.3 in the 2017 version);
- The parallelism tolerance requirement between the slider stroke of the variable diameter mechanism and the front plane of the fuselage has been changed (see 5.1.4.2, 2017 version). 4.1.4.2);
- The tolerance requirements for radial runout of the camshaft (distribution shaft) have been changed (see 5.1.5.2, 4.1.5.2 in the 2017 version);
- Added a repeatability accuracy test item for the rotation of the cable tray (see 5.1.6);
- Added an inspection item for the accuracy requirement of the wire delivery length (see 5.1.7);
- The method for verifying working accuracy has been changed (see 5.2,

4.2 in the 2017 version). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Forging and Pressing Machinery (SAC/TC220). This document was drafted by: Zhejiang Chuangyu Machinery Technology Co., Ltd., Nantong Chaoli Plate Rolling Machine Manufacturing Co., Ltd., and China Heavy Machinery Research Institute. Institute Co., Ltd., Shengzhou Machinery Industry Association, Shengzhou Jinshi Spring Machinery Co., Ltd., Zhejiang Shengda Robotics Technology Co., Ltd., Zhejiang Lanya Technology Co., Ltd., and Jinan Foundry & Forging Institute Inspection and Testing Technology Co., Ltd. The main drafters of this document are: Li Chao, Tang Ziqin, Wang Shechang, Lou Yu, Li Hongliang, Wang Guoyong, Qiu Mingjun, Fan Yulin, Feng Dongxiao, and Hu Dengxue. Lin Xinlong, Wang Hua, Nie Yuhan. This document was first published in 1993, revised for the first time in 2017, and this is the second revision. Automatic spring coiling machine precision

1 Scope

GB/T 14331-2025 is the Chinese national standard on automatic spring winding machine - testing of the accuracy, in the field of manufacturing engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 25.120.10, CCS J62. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 1239.1-2009 Technical conditions for cold-rolled cylindrical helical springs - Part

GB/T 4357-2022 Cold-drawn carbon spring steel wire

GB/T 8170 Rules for rounding off numerical values and the representation and determination of limiting values

GB/T 10923 General Rules for Precision Inspection of Forging Machinery

GB/T 24760-2009 Cast Iron Straight Edge

GB/T 36484 Terminology for Forging Machinery

3 Torsion springs

GB/T 1973.1-2021 Small cylindrical helical springs - Part

4 Inspection Requirements

4.1 The accuracy inspection shall comply with the provisions of GB/T 10923.

4.2 Before the accuracy inspection, the installation level of the automatic spring coiling machine should be adjusted, and the levelness should not exceed 0.20/1000.

4.3 The front plane of the automatic spring coiling machine body is the inspection reference plane for items 5.1.2, 5.1.3,

5.1.4 and 5.1.5, and its flatness tolerance shall not exceed [value missing]. 0.05mm.

4.4 The allowable tolerances for various precision parameters of the automatic spring coiling machine shall be calculated based on the actual inspection length, and the calculation results shall be rounded to the micrometer according to GB/T 8170. Digital value. If the converted value is less than 0.01mm, it shall be counted as 0.01mm.

4.5 The accuracy of cast iron straight edges shall not be lower than the Grade 1 accuracy specified in GB/T 24760-2009.