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

GB/T 21681-2025

Replacing GB/T 21681-2008

**Analog load testing systems for mechanical presses and
hydraulic presses**

机械压力机、液压机用模拟负荷测试系统

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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 supersedes GB/T 21681-2008 "Simulated Load Testing System for CNC Presses and Hydraulic Presses", and is consistent with GB/T 21681- Compared to.2008, aside from structural adjustments and editorial changes, the main technical changes are as follows:

a) The "scope" has been redefined (see Chapter 1, Chapter 1 of the.2008 edition);

b) Increased working environment conditions (see 4.1);

c) Modified resolution (see 4.6.1,

4.4 in the.2008 edition), fluctuation (see 4.6.2,

4.28.2 in the.2008 edition), and fundamental error (see 4.6.3 (

4.5 in the.2008 edition), repeatability error (see 4.6.4,

4.6 in the.2008 edition);

d) Removed "Display Mode" (see

4.3 in the.2008 version) and "Power-On Self-Test" (see

4.7 in the.2008 version);

e) The measurement range has been changed (see 4.6.5,

4.10 in the.2008 version);

1 Scope

GB/T 21681-2025 is the Chinese national standard covering the rig that loads a press without a die in it - the simulated load and how faithfully it reproduces the real forming stroke, the measurement of force, energy and deflection, and the accuracy the system itself has to hold. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing

GB/T 21681-2008.

This document specifies the technical requirements for simulated load testing systems used in mechanical presses and hydraulic presses, describes the corresponding test methods, and stipulates... It includes inspection rules, marking, packaging, storage, and transportation. This document applies to the manufacture of simulated load testing systems for mechanical presses and hydraulic presses.

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 191 Pictorial Symbols for Packaging and Storage

GB/T 2423.2-2008 Environmental testing of electrical and electronic products - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 7551 and GB/T 13639, as well as the following terms and definitions, apply to this document.

3.1 load cell A weighing sensor used to measure impact force.

3.2 Analog load By adjusting the closed height of the mechanical press or the hydraulic system pressure and closed height of the hydraulic press, the load sensor is struck to make the mechanical press... The impact force generated by a press or hydraulic press.

3.3 Rated load The standard working load specified in the design of the load cell.

4 Technical Requirements

4.1 Working Environment Conditions The simulated load testing system for mechanical presses and hydraulic presses (hereinafter referred to as the "test system") shall operate normally under the following conditions.

- a) For indoor or outdoor use (with rain protection);
- b) Atmospheric pressure. 86 kPa~106 kPa;