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

GB/T 42596.1-2023

**Machine tools safety - Presses - Part 1: General safety
requirements**

机床安全 压力机 第1部分：通用安全要求

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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 Part 1 of GB/T 42596 "Safety Presses for Machine Tools": GB/T 42596 has issued the following parts:

--- Part 1: General safety requirements;

--- Part 3: Safety requirements for hydraulic presses: This document is modified to adopt ISO 16092-1:2017 "Safety of machine tools and presses - Part 1: General safety requirements": Compared with ISO 16092-1:2017, this document has made the following structural adjustments:

---5:4:1:1 corresponds to 5:4:1:1 and 5:4:1:1:1 of ISO 16092-1:2017;

---5:4:1:2 corresponds to 5:4:1:1:2 of ISO 16092-1:2017;

---5:4:1:3 corresponds to 5:4:1:1:3 of ISO 16092-1:2017;

---5:4:1:4 corresponds to 5:4:1:1:4 of ISO 16092-1:2017;

---5:4:1:5 corresponds to 5:4:1:1:5 of ISO 16092-1:2017;

---5:4:1:6 corresponds to 5:4:1:1:6 of ISO 16092-1:2017;

---5:4:1:7 corresponds to 5:4:1:1:7 of ISO 16092-1:2017;

---5:4:1:8 corresponds to 5:4:1:1:8 of ISO 16092-1:2017: The technical differences between this document and ISO 16092-1:2017 and their reasons are as follows:

--- ISO 4413:2010 was replaced by GB/T 3766-2015 with normative references (see Chapter 5), the consistency between the two documents The degree of stability is modified to adapt to the technical conditions of our country and increase operability;

--- ISO 14118:2000 (see Chapter 5) is replaced by GB/T 19670-2005 with normative

references, a document between the two documents The degree of consistency is modified to adapt to the technical conditions of our country and increase operability;

--- ISO 13851:2002 (see Chapter 5) is replaced by GB/T 19671-2005 with normative references, a document between the two documents The degree of consistency is modified to adapt to the technical conditions of our country and increase operability;

1 Scope

GB/T 42596.1-2023 is Part 1 of the Chinese series on press safety, and sets the general safety requirements. Presses amputate more hands than any other class of machine tool, and always in the same way: the operator's hand is in the die area when the slide comes down, either because the guarding was defeated to speed up the work or because the machine repeat-stroked when it should not have. Everything in the standard follows from that. It defines the press categories used across the series, the press components and control functions, and the operating modes, then lists the significant hazards and sets the safety requirements: the basic design, the mechanical hazards in the die area, the control and monitoring system, die adjustment, stroke adjustment, maintenance and lubrication, the other mechanical hazards, slips, trips and falls, and protection against other hazards, followed by the verification and the information for use. It took effect on 1 December 2023.

This document specifies the safety techniques to be adopted by the design, manufacture and supplier of presses for cold working of metals or parts of non-metals requirements and measures: This document applies to presses that work independently and can also be used as a design guide for presses that are integrated into manufacturing systems: This document applies to mechanical transmission of force, and through the connection of the upper die or lower die, or through the slide block cutting, forming, processing cold metal Presses for metal or other sheet metal, ranging from small high-speed machines with a single operator producing small workpieces, to multiple operators producing large workpieces The author's large slow machine tool: This document does not apply to machines for the following purposes:

- a) Shears for cutting metal;
- b) connecting fasteners, such as riveting, stapling, splicing;
- c) Bending or bending, such as bending machines, folding machines;
- e) Turret stamping;
- h) metal powder forming;
- i) special punching machines for profiles only, e:g: for the construction industry;
- j) spot welding;
- l) Air hammer processing: This document does not apply to presses manufactured before

its implementation date:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document: GB/T 1251:

1 Ergonomics Hazard Signals in Public Places and Work Areas Hazard Audible Signals (GB/T 1251:1- 2008, ISO 7731:2003, IDT) GB/T 1251:

2 General requirements, design and inspection of ergonomic hazard visual signals (GB/T 1251:2-2006, ISO 11428:1996, IDT)

GB/T 3766-2015 General rules and safety requirements for hydraulic transmission systems and their components (ISO 4413:2010, MOD)

Note: There is no technical difference between the referenced content of

GB/T 3766-2015 and the referenced content of ISO 4413:2010:

GB/T 4584 Specifications for Photoelectric Protection Devices for Presses

GB/T 5226:1-2019 Electrical safety of machinery and electrical equipment - Part 1: General technical requirements (IEC 60204-1: 2016, IDT)