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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Metalforming machinery - Safety technical specification

锻压机械 安全技术规范

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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 17120-2012 "Safety Technical Conditions for Forging and Pressing Machinery" and GB 6077-1985 "Safety Regulations for Shearing Machinery". GB 27607-2011 "Safety Technical Requirements for Mechanical Presses" and GB 28241-2012 "Safety Technical Requirements for Hydraulic Presses" partially replace [the relevant standards]. GB 26485-2011 "Safety Requirements for Uncoiling, Leveling, and Shearing Production Lines", GB 27608-2011 "Safety Requirements for Combined Punching and Shearing Machines", GB 28240-2012 "Safety Technical Requirements for Shearing

Machines", GB 28242-2012 "Safety Technical Requirements for Screw Presses", GB 28243-2012 "Safety Technical Requirements for Hydraulic Plate Bending Machines", GB 28244-2012 "Safety Technical Requirements for Automatic Forging Presses", Mandatory requirements of GB 28760-2012 "Safety Technical Requirements for Pipe Bending Machines" and GB 30458-2013 "Safety Technical Requirements for Plate Rolling Machines", etc. Compared with the above standards, apart from structural adjustments and editorial changes, the main technical changes are as follows:

---The requirements for "Hazards of Forging Machinery" have been amended (see Chapter 4, Chapter 4 of GB 17120-2012 edition);

---The "General Requirements" have been amended (see 5.1, GB 17120-2012 edition 5.1);

---The "Transmission System" has been amended (see 5.2, GB 17120-2012 edition 5.2);

---The "overload protection device" has been modified (see 5.2.5,

5.5 of GB 17120-2012 edition);

---The requirements for "Electrical Systems" have been amended (see 5.3,

5.7 of GB 17120-2012 edition);

---The requirements for "hydraulic systems" have been changed (see 5.4,

5.8 of GB 17120-2012 edition);

---The requirements for "pneumatic systems" have been changed (see 5.5,

5.9 of GB 17120-2012 edition);

---The "Control and Monitoring System" has been amended (see 5.6, GB 17120-2012 version 5.6);

1 Scope

China's mandatory safety technical specification for metalforming machinery. Presses, press brakes and shears are the machines that amputate hands, and they do it in a way peculiar to themselves: the hazard is not a rotating tool but a closing die, the operator's hands must go into it to place and remove the work, and the cycle is repeated thousands of times a day until the hands move without thought. Guarding alone cannot solve it, which is why the specification is built on the protective devices that allow the hands to be there safely - the two-hand control that occupies both hands during the closing stroke, the light curtain that stops the stroke if anything breaks the beam, and above all the stopping performance and the monitored brake, since a light curtain is only as good as the machine's ability to stop before the hand reaches the die.

This document specifies the safety requirements for the design, manufacture, and use of forging machinery. This document applies to the design, manufacture, and acceptance of

forging machinery. This document does not apply to forging machinery manufactured prior to the implementation of this document.

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 150 (All Parts) Pressure Vessels

GB/T 1251.2 Ergonomic requirements, design and inspection of visual signals for hazards

GB 2894 Safety Colors and Safety Signs

GB/T 3766 General rules and safety requirements for hydraulic transmission systems and their components

GB/T 4584 Technical Requirements for Photoelectric Protection Devices for Presses

GB/T 5091 Technical Requirements for Safety Protective Devices for Presses

GB/T 5092 Technical Requirements for Inductive Safety Devices for Presses

GB/T 5226.1-2019 Electrical Safety of Machinery - Electrical Equipment of Machinery - Part