

ICS 25.120.10

CCS J62



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

GB 28243-2012

Hydraulic press brakes - Safety requirements

液压板料折弯机 安全技术要求

Issued on: March 9, 2012

Implemented on: January 1, 2013

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

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Foreword

The standard Chapter 3, Chapter 4, Appendix B and Appendix C are recommended, the rest are mandatory. This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by China Machinery Industry Federation. This standard by the National Forging Machinery Standardization Technical Committee (SAC/TC220) centralized. This standard was drafted. Foshan Nanhai ACL Machine Co., Ltd., Nanjing

Eston Digital Technology Co., Ltd., Jinan Casting forging press Mechanical Research Institute Co., Ltd., Jiangsu strength Forging Machine Co., Ltd., Shanghai Machine Tool Plant punching, Anhui Sanli Machine Tool Manufacturing Co., Ltd. The main drafters of this standard. Zhou Jianjun, Wu Bo, Ma Liqiang, Luo Guilin, Fu Gang, Bao Dao, Yang Minzhe, its king, Chen Jin. Hydraulic plate bending machine - Safety requirements

1 Scope

GB 28243-2012 is the Chinese national standard on hydraulic press brakes - safety requirements, in the field of manufacturing engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 9 March 2012 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 January 2013. 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.

This standard specifies the hydraulic plate bending machine safety technology requirements and measures. This standard applies to cold metal or material partly of metal hydraulic plate bending machine (hereinafter referred to as bending machines), also applies to The same processing technology to other materials (such as cardboard or plastic) of the bending machine. This standard also applies to the accessory device bender.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2893.2 Graphical symbols - Safety colors and safety signs - Part 2. Design principles for product safety labels (ISO 3864-2)

GB 2894 Safety Signs and use guidelines

GB/T 3766 Hydraulic System General technical conditions (ISO 4413)

GB 4208 housing protection (IP Code)

GB 4584 presses photoelectric protection device technology

GB 5226.1-2008 Safety of machinery - Electrical machinery and electrical equipment - Part 1. General requirements (

IEC 60204-1:2005) GB Safety of laser products - Part 1. Equipment classification, requirements and user guide (IEC 60825-1:1993)

GB/T 7932 pneumatic systems General technical conditions (ISO 4414)

GB/T 8196 mechanical safety devices fixed and movable guards design and manufacture of general requirements (ISO 14120)

GB 12265.3-1997 Safety of machinery to avoid crushing of parts of the human body minimum spacing (EN349:1993)

GB/T 14775 manipulator General ergonomics requirements

GB/T 14776 Ergonomic design principles job size and value (DIN33406)

GB/T 15706.1-2007 Safety of machinery - Basic concepts, general principles for design - Part 1. Basic terminology, methodology (ISO 12100- 1:2003)

2.1 Charged with human body contact (direct contact) Electrical Equipment

2.2 Since the human body and under fault conditions becomes into contact with live parts of the body (indirect contact) Electrical Equipment 4.3 5.8.1

3 thermal hazards

3.1 Thermal hazards to persons may reach production Health burns and scalds Hydraulic System Components 4.4 5.8.2

4.1 dangerous noise can cause hearing damage risk of hearing damage exists bend area 4.5 5.8.5

5 radiation risks

3 Terms and Definitions

GB/T 15706.1, and the following terms and definitions GB/T 15706.2 and GB 17120 apply to this document defined.

3.1 Slider beam Equipped with reciprocating die bender working parts.

3.2 Blanking blanking One photoelectric protection device optional features, you can make part of the detection area protector is suppressed (ie, become blind spot detection, Partial light beams is disabled).

3.3 Automatic cycle cycle-automatic Operating cycle can be repeated continuously or intermittently operating mode. In this mode, after bending machine start all functions without manual intervention The case is completed.

3.4 Duty cycle cycle-operating Slider from the starting point of the cycle (usually top dead center) to the lower dead point and then loop back to the end of movement (usually top

dead center) is a complete Cycles. Duty cycle comprising the motion during all operations.

3.5 Single cycle cycle-single Each operating cycle of the slider must be forced by the operator to start operating mode.

3.6 Dead deadcentres Slide limit position trajectory. Acting on the bending machine, slide trajectory of the most extreme position, known as the bottom dead center (BDC); The most slider trajectory extreme position, known as the top dead center (TDC); under-acting bending machines, dead contrary to the above.

3.7 Hydraulic plate bending machine hydraulicpressbrake By hydraulic transmission to transfer energy to the movement of the mold parts, along a straight line in the narrow mold plate will bend forming a machine.

3.8 Limited motion control device limitedmovementcontroldevice Jog means inchingdevice The itinerary bending machine moving part is limited within a certain range of the control device, so as to minimize the risk. Only intermittently Operation of the device, will have a further movement. [GB/T 15706.1-2007, the definition 3.26.9]

3.9 Surveillance monitoring A security feature if a component (element) is no longer able to exercise its function due to changes in processing conditions or make further worked Cheng will be dangerous when issuing safety information.

3.10 Inhibition muting By the safety control system components on one or more security features automatic stay temporarily.

3.11 The total response time to stop overallresponsetime Stop system performance overalsystemstoppingperformance It refers to the protection device to start from the beginning of the dangerous movement to stop the machine into a safe state or elapsed time.

3.12 Redundancy redundancy Multiple devices or systems, for failure to ensure that all the way, another way to effectively perform the required function.

3.13 Support valve restraintvalve Prevent the slider dropped by gravity hydraulic valves.

4 Important risk

Press important risk Listing

4.1 GB/T 16856.1 risk assessment results are shown in Table 1.

4.2 Risk assessment includes risk of entering the danger zone operators and other personnel produced, taking into account the intended use conditions (see Possible danger of 15706.1-2007 5.3) under GB/T .

4.3 shall be according to GB/T 16856.1 other risk analysis and risk assessment. Table

1 Important hazards and protective measures in hazardous areas No. Danger area GB/T