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

GB/T 21269-2018

Cold chamber die casting machines

冷室压铸机

(English Translation)

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1 Scope

This Standard specifies the terms and definitions, types and parameters, precisions and inspection methods, technical requirements, test methods, inspection rules, as well as marking, packaging, transportation and storage of cold chamber die casting machines.

This Standard is applicable to horizontal cold-chamber diecasting machines and vertical cold-chamber diecasting machines (hereinafter referred to as die casting machines).

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 191 Packaging - Pictorial Marking for Handling of Goods

GB/T 1801 Geometrical Product Specifications (GPS) - Limits and Fits - Selection of Tolerance Zones and Fits

GB 2893 Safety Colors

GB 2894 Safety Signs and Guideline for the Use

GB/T 3766 Hydraulic Fluid Power - General Rules and Safety Requirements for Systems and Their Components

GB 5083 General Rules for Designing the Production Facilities in Accordance with Safety and Health Requirements

GB 5226.1-2008 Electrical Safety of Machinery - Electrical Equipment of Machines - Part 1.General Requirements

GB/T 7932 Pneumatic Fluid Power - General Rules and Safety Requirements for Systems and Their Components

GB/T 7935 Hydraulic Fluid Power - General Requirements for Hydraulic Components

GB/T 9969 General Principles for Preparation of Instructions for Use of Industrial

3.6 Most Metal Shot Weight

Most metal shot weight refers to the maximum mass of molten metal that can be poured into the pressure chamber at one time.

3.7 Horizontal Cold-chamber Diecasting Machine

Horizontal cold-chamber diecasting machine refers to a cold-chamber diecasting machine with horizontally installed pressure chamber.

3.8 Vertical Cold-chamber Diecasting Machine

Vertical cold-chamber diecasting machine refers to a cold-chamber diecasting machine with vertically installed pressure chamber.

3.9 Diameter of Pressure Chamber

Diameter of pressure chamber refers to the inner diameter of pressure chamber.

3.10 Once Dry Cycle Time

Once dry cycle time refers to the time required for each dry cycle of the die casting machine in the operating sequence.

NOTE 1: for the horizontal cold-chamber diecasting machine, once dry cycle time refers to. in the automatic state, the sum of the action times of mold clamping, injection, mold opening, injection return, ejection and ejection return.

NOTE 2: for the vertical cold-chamber diecasting machine, once dry cycle time refers to. the sum of the action times of mold clamping, injection, injection return, returning charge, returning charge return, mold opening, ejection and ejection return.

3.11 Shot Position

Shot position refers to the position of the pressure chamber on the fixed mold mounting plate, which is generally determined by the number and distance of the pressure chamber located at the center of symmetry of the tie bars of the die casting machine and the position adjustable downward from the center.

3.12 Diameter of Pressure Chamber Flange (for horizontal cold chamber

die casting machine)

Diameter of pressure chamber flange refers to the diameter of the flange of the pressure chamber protruding from the fixed mold mounting plate when the pressure chamber is installed on the fixed mold mounting plate.

3.13 Height of Pressure Chamber Flange (for horizontal cold chamber die

casting machine)

Height of pressure chamber flange refers to the distance of the flange protruding from the working surface of the fixed mold mounting plate after the pressure chamber is properly installed on the fixed mold mounting plate.

3.14 Injection Plunger Penetration

Injection plunger penetration refers to the maximum distance that the injection plunger is pushed out during mold opening, that is, the distance between the end of ejection and the end of the injection plunger to the working surface of the fixed mold mounting plate.

3.15 Accumulator

Accumulator refers to a container for storing liquid and gaseous pressure media in a hydraulic pipeline.

NOTE: the pressurized liquid compresses the gas in the container; during operation, the gas expands and stores energy output, which serves as a supplement to the liquid power.

3.16 Intensification

Intensification utilizes a difference in piston area or an accumulator with a higher pressure to make the generated fluid pressure in the injection cylinder higher than the system pressure.

3.17 Injection Pressure, Displacement-time Curve

Injection pressure, displacement-time curve refers to a curve that reflects the relations among injection pressure, injection plunger displacement and time, as it is shown in

Figure 1.

3.18 Slow Injection

Slow injection refers to the movement process of the injection plunger from the initial position to when the liquid metal reaches the fast injection transition point.

3.19 Fast Injection

Fast injection refers to the process, in which, the injection plunger quickly fills the cavity with liquid metal after the end of the slow injection.

3.20 Slow Injection Speed

Slow injection speed refers to the average speed of the injection plunger during the slow injection process.

3.21 Fast Injection Speed

6.1.2 The die casting machine shall have manual, semi-automatic and automatic working modes.

6.1.3 The movement of the moving parts shall be correct, stable and reliable. When the hydraulic system pressure is 25% of the rated value, there shall be no crawling, jamming and obvious impact (except for the mold adjustment action).

6.1.4 The hydraulic system and hydraulic components shall comply with the relevant stipulations of GB/T 3766 and GB/T 7935.

6.1.5 The electrical system shall comply with the relevant stipulations of GB 5226.1-2008.

6.1.6 The pneumatic system shall comply with the relevant stipulations of GB/T 7932.

6.1.7 The die casting machine shall have designations and plates indicating the operation, lubrication and safety of the hydraulic and pneumatic systems. The contents and markings of the designations and plates shall be correct and comply with the stipulations of relevant standards. The plates shall comply with the stipulations of GB/T

13306. Distinct factory names and trademarks are allowed to be inlaid and cast on the die casting machine.