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

GB/T 31552-2023

Foundry machinery - Classification and model designation

铸造机械 分类与型号编制方法

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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 replaces GB/T 31552-2015 "Foundry Machinery Type Compilation Method": Compared with GB/T 31552-2015, except for the Apart from adjustments and editorial changes, the main technical changes are as follows:

a) The expression of the scope has been changed (see Chapter 1, Chapter 1 of the:2015 edition):

b) Added casting machinery classification methods, classification basis and classification diagrams, and changed the names of some types of equipment: the "sand processing equipment" Equipment" was changed to "sand preparation and sand recycling equipment", "sand shakeout equipment" was changed to "sand shakeout and coring equipment", and "metal mold equipment" was changed Change to "permanent and semi-permanent casting equipment", change "investment molding equipment" to "investment and lost foam casting equipment" (see 4:1, 4:2 and Figure 1, 3:2:3 and Table 1 of the:2015 edition):

c) Added Table 1, added and merged some group equipment, changed the names of some group equipment, adjusted the names of some group equipment Category (see Table 1, Table 2 to Table 11 of the:2015 edition), of which: 1) In "Molding sand preparation and sand recycling equipment", change "Raw material processing equipment" to "Raw sand drying equipment", "Self-hardening sand mixing equipment" Sand equipment" was changed to "non-clay sand mixing equipment" (see Table 1, Table 2 of the:2015 edition); 2) In "Moulding and Core Making Equipment", adjust "Lost Foam Molding Equipment" to "Investment and Lost Foam Casting Equipment", and set "Vibration Pressure "Moulding machine" is changed to "shock molding machine", "vibrating molding machine" is changed to "vibrating molding machine and vibrating table", "force compacting, Injection molding machine" was changed to "air force compacting, injection (static) pressure molding machine", "V method molding equipment" was changed to "V method design equipment", "molding supporting equipment" is changed to "molding line auxiliary equipment", "core making machine" is

changed to "core shooter and core making complete set of equipment" (see Table 1, Table 3 of the:2015 edition); 3) In "shaking sand removal equipment", change "fixed vibrating sand shakeout machine" to "fixed sand shakeout machine", "conveyor vibration shakeout Machine" was changed to "conveyor shakeout machine", "drum shakeout machine" was changed to "shakeout drum", "vibration corer" was changed to "corer remover" Machine", "special sand cleaning device" was changed to "wet sand cleaning device" (see Table 1, Table 4 of the:2015 edition); 4) In "Cleaning Equipment", change "Ordinary Cleaning Equipment" to "Roller, Vibration Cleaning Equipment", and change "Shot Blast Cleaning Equipment" to Changed to "Shot Peening (Sand) Cleaning Equipment", "Cutting and Grinding Equipment" and divided into "Gating and Riser Removal Equipment" and "Grinding and Cleaning Equipment" "equipment", delete the "other" equipment group division (see Table 1, Table 5 of the:2015 edition); 5) In "permanent and semi-permanent casting equipment", change "metal mold casting machine" to "metal mold gravity casting machine", "golden mold casting machine" "Type auxiliary machine" was changed to "permanent casting auxiliary machine", the group division of "rotor die casting machine" was deleted, and its equipment was adjusted to "cold casting machine": In "chamber die-casting machine", add "graphite casting equipment" (see Table 1, Table 6 of the:2015 edition); 6) In "Investment and Lost Foam Casting Equipment", change "Mold Material Preparation Equipment" to "Wax Material and Wax Pattern Preparation Equipment", "Removal Equipment" was changed to "dewaxing equipment", and "lost foam molding equipment" and "lost foam molding equipment" were added (see Table 1,:2015 version of Table 7); 7) In "Smelting and Pouring Equipment", merge "Cupola" and "Forehearth" into "Cupola and Its Auxiliary Devices", and "Molten Iron Ladle" Merged with "liquid steel ladle" into "ladle", merged "cupola auxiliary equipment" and "coke processing equipment" into "burden handling and Batching equipment", change "cupola feeding device" to "smelting and feeding equipment", change "cupola fan" to "smelting pouring Supporting equipment", added "melt metal processing and transfer equipment" and "non-ferrous alloy melting furnace" (see Table 1, the table of the:2015 edition 8); 8) In "Transportation Quantitative Equipment", change "General Parts" to "Flat Car", change "Casting Manipulator" to "Casting Machine Manipulators and Robots" and adjusted to the "Others" category (see Table 1, Table 9 of the:2015 edition); 9) In "Detection and control equipment", change "Sand processing detection and control device" to "Molding sand preparation detection and control device", "Sand Furnace smelting process detection and control device" was changed to "smelting process detection and control device", and "special casting detection device" was changed to For "permanent casting detection device", add "material level detection device" (see Table 1, Table 10 of the:2015 edition); 10) In the "Others" category, change "paint material preparation equipment" to "paint equipment", delete "turnover equipment", and add "casting equipment" 3D printing and sand mold processing and forming equipment", "casting waste gas purification device", "dust removal equipment for foundry" and "melting waste slag regeneration Utilization of equipment" (see Table 1, Table 9 and Table 11 of the:2015 edition):

- d) The requirement for the name of foundry machinery has been deleted (see 3:1:4 of the:2015 edition):
- e) Deleted the expression method of the casting unit code (see 3:2:2:2 of the:2015 edition):
- f) The requirements for the naming of foundry machinery production lines and production units (or systems, centers) have been added (see 4:5:2):
- g) Change "principles and methods of foundry machinery model establishment" to "model establishment method" (see Chapter 5, Chapter 3 of the:2015 edition):
- h) Added the provisions on the basic elements of casting machinery product models (see 5:1:1):
- i) The normative appendix "Type division and group, type code and main parameter code of various equipment of foundry machinery" has been added, and some parts have been deleted and added: Type-specific equipment, changed the names of some types of equipment, and adjusted the group division of some types of equipment (see Appendix A,:2015 Table 2~Table 11 of the edition): Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed by China Machinery Industry Federation: This document is under the jurisdiction of the National Foundry Machinery Standardization Technical Committee (SAC/TC186): This document is drafted by: Nan'an Zhongji Standardization Research Institute Co., Ltd., Jinan Casting and Forging Institute Inspection and Testing Technology Co., Ltd., Fujian Province Minxuan Technology Co., Ltd., Shandong Jiechuang Machinery Co., Ltd., Eleven Dimensions (Xiamen) Network Technology Co., Ltd., Suzhou Mingzhi Technology Co., Ltd. Co., Ltd., Quanzhou Standardization Association, Qingdao Antai Heavy Industry Machinery Co., Ltd., Jinhua Baolin Technology Co., Ltd., Zhejiang Wujing Machine Manufacturing Co., Ltd., Baoding Well Foundry Machinery Co., Ltd., Qingdao Zhongzhida Environmental Protection Melting Equipment Co., Ltd., Weihai Gongyou Casting Co., Ltd. Manufacturing Machinery Co., Ltd., Qingdao Huihong Liangtai Intelligent Equipment Co., Ltd., Quzhou Hengye Auto Parts Co., Ltd., China Automotive Industry Engineering Co., Ltd. Co., Ltd., Qingdao Kaijie Heavy Industry Machinery Co., Ltd., Shenzhen Lingwei Technology Co., Ltd., Qingdao Qingli Environmental Protection Equipment Co., Ltd., Qingdao Beinuo Magnetism Electric Technology Co., Ltd., Qingdao Sanrui Machinery Manufacturing Co., Ltd., Wuyang Baichuan (Qingdao) Intelligent Equipment Co., Ltd., Jinan Second Machine Tool Group Co., Ltd. Co., Ltd., Anhui Anchun Machinery Co., Ltd., Ningxia Sharing Group Co., Ltd., Nan'an Quality Measurement and Inspection Institute: The main drafters of this document: Zhu Bin, Lu Jun, Liu Jiahua, Zhang Jie, Hou Xuecai, Lu Gaochun, Chen Yucai, Ji Yan, Chen Miaoyong, Zhao Yang, Hou Ruoxian, Duan Jinting, Chi Yingjie, Chen Liang, Xia Tiansheng, Liu Xiaolong, Su Liguang, Zhan Changjun, Xu Niansheng, Yu Kuotao, Li Haichun, Yan Zuoxiu, Wang Derun, Wang Minggang, Huang Changwen, Xue Ruili, Ke Zhenzhen, Chen Renjie: This document was first published in:2015, and this is the first revision: Casting machinery classification and

model compilation method

1 Scope

China's national standard for the classification and model designation of foundry machinery, and the current edition of GB/T 31552, replacing the 2015 edition. It specifies the classification of foundry machinery and the method by which a model designation is built, with a normative annex giving, for every class of equipment, the type and group divisions, the type codes and the main parameter codes. It is a large document - the annex alone occupies thirty pages of tables - because foundry machinery is not one kind of machine but ten. The classification divides it into sand preparation and sand reclamation equipment, moulding and core making equipment, shakeout and core removal equipment, cleaning equipment, permanent and semi-permanent mould casting equipment, investment and lost foam casting equipment, melting and pouring equipment, transport and metering equipment, inspection and control equipment, and others, each with its own class letter and its own table of groups, types and parameter codes. A designation built on that scheme tells a reader what the machine is, what group it belongs to, its principal size or capacity and its variant, in a few characters - which is what makes a foundry's equipment register, a spare parts catalogue and a purchase order intelligible across manufacturers. The 2023 revision restates the scope, adds an explicit classification method with its basis and a classification diagram, and renames four classes: sand processing becomes sand preparation and sand reclamation, shakeout becomes shakeout and core removal, metal mould equipment becomes permanent and semi-permanent mould casting equipment, and investment moulding becomes investment and lost foam casting equipment. It also adds and merges groups and moves several between classes. Issued on 17 March 2023 and in force since 1 October 2023.

This document specifies the classification and model compilation methods of foundry machinery: This document applies to the design, manufacture and trade of foundry machinery:

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 25370 Foundry Machinery Terminology

3 Terms and Definitions