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**Intelligent vertical mill grinding systems - Technical
requirements**

智能化立磨粉磨系统 技术要求

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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. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by the China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Mining Machinery (SAC/TC88). This document was drafted by: CITIC Heavy Industries Machinery Co., Ltd., Zhejiang University, Hangzhou Vocational and Technical College, Henan Liming Heavy Industry Technology Co., Ltd. Co., Ltd., Henan University of Science and Technology, Shenyang Jianzhu University, Luoyang Mining Machinery Engineering Design and Research Institute Co., Ltd. The main drafters of this document are. Wuhan Qi, Li Ke, Ji Yangjian, Qiu Xudong, Yang Congli, Xue Yujun, Zhou Peng, Wang Lihui, Wang Yadong, Zhang Shuyou, Zhang Xiaochen, Tao Wenjia, Wan Anping. Technical requirements for intelligent vertical mill grinding system

1 Scope

China's national technical requirements for intelligent vertical mill grinding systems. The vertical roller mill is the dominant grinding machine in cement, and it is unusually suited to automatic control because it is unusually unstable. The mill grinds a bed of material on a rotating table under hydraulically loaded rollers, and the bed's thickness and stability determine everything: too thin and the rollers contact the table with damaging vibration, too thick and throughput falls and the mill fills. The bed depends on the feed rate, the feed size, the moisture, the grinding pressure, the gas flow and the classifier speed, all interacting

with delays. An experienced operator holds it near the limit of stability, where the mill is most efficient, and a less experienced one runs it well inside that limit. Automating the judgement is what an intelligent system means here, and the saving comes from operating closer to the boundary.

This document specifies the intelligent standard architecture and technical requirements for intelligent vertical mill grinding systems. This document is applicable to the intelligent grinding production line system with vertical roller mill as the core equipment.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 16656.46 Industrial automation systems and integrated product data representation and exchange Part

46.Integrated common resources. Visual Display

GB/T 32854.4 Automation systems and integrated manufacturing systems - Advanced control and optimization software integration - Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Vertical roller mill verticalrolermill A dry grinding equipment, the material is placed between the grinding roller and the grinding disc for grinding, and is dried with the hot air introduced into the mill, and the gas and solid particles are The mixture flows to the powder classifier, which classifies the ground particles. Qualified particles pass through, while unqualified particles remain in the mill and are ground again.

Note. Hereinafter referred to as "vertical mill".

3.2 Grinding system grinding system A continuous grinding production line composed of grinding equipment, material conveying equipment, hot air supply equipment, separation equipment, material storage and other equipment.

3.3 Dry grinding production line with vertical mill as the core equipment.

3.4 Digitalization Signal information and test results are transmitted and displayed digitally.

3.5 Intelligence Measures or methods based on data analysis and calculation to enable equipment, systems, etc. to have autonomous decision-making capabilities and adjust

working conditions.

4 Information interaction and use

GB/T 33863.8 OPC Unified Architecture Part

8 Data Access

GB/T 40218 Industrial communication network network and system security Industrial automation and control system information security technology