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**Grain and oil machinery - Bucket elevators**

粮油机械 斗式提升机

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## Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. Please note that some of the contents of this document may involve patents. Publication of this document The organization does not assume responsibility for identifying these patents. This standard was proposed by the National Grain and Material Reserve Bureau. This standard is under the jurisdiction of the National Grain and Oil Standardization Technical Committee (SAC/TC270). This standard was drafted. Zhengzhou COFCO Research and Design Institute Co., Ltd., Suzhou Jiesai Machinery Co., Ltd., Zhenjiang three-dimensional transport equipment Co., Ltd., Jiangsu Fuchang Machinery Equipment Co., Ltd., Jiangsu Muyang Fengshang Steel Warehouse Engineering Co., Ltd., Jiangmen Southern Transportation Machinery Engineering Co., Ltd., Hubei Yidu Yunji Electromechanical Co., Ltd., Zhenjiang Xinhengtong Transportation Equipment Co., Ltd., Hebei Pingle Flour Machinery Group Co., Ltd., Jiangsu Guoliang Storage Engineering Co., Ltd., Yidu Huaxun Intelligent Transportation Co., Ltd. The main drafters of this standard. Zhang Zhuoqing, Sun Huinan, Ji Chunhua, Chen Xu, Zhang Junling, Li Guangqian, Chen Hongbin, Qian Hangsong, Ren Shouhua, Li Xingang, Wang Binxing, Liang Zhenhong, Wang Chuanping, Man Zaidong, Hao Zhiyong, Qian Qingfeng, Yang Wenli, Li Xianhua. Grain and oil machinery bucket elevator

## 1 Scope

China's national standard for bucket elevators in grain and oil processing. It specifies the terms and definitions, the working principle, the classification, the models and basic parameters, the technical requirements and the testing. A bucket elevator is a belt or chain carrying buckets in a vertical loop inside two casings, and it is how grain gets from ground level to the top of a silo or a mill. There is no better way to lift bulk material vertically - a screw conveyor is inefficient and a pneumatic system damages the grain and consumes far more power. What makes it a machine that needs a standard is that it is also the most dangerous item in a grain facility. It is a tall enclosed column full of dust in suspension, containing a belt running over pulleys that can slip and heat, and it is historically where grain elevator explosions start. The requirements on belt alignment, bearing temperature monitoring, speed sensing and explosion venting follow directly from that.

This standard specifies the terms and definitions, working principle, classification, model and basic parameters, technical requirements, and test of grain and oil machinery bucket elevators. Test methods, inspection rules, signs and packaging, transportation and storage. This standard is applicable to bucket elevators that continuously transport various grain materials vertically.

## 2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 191 packaging storage and transportation icon

GB/T 1184-1996 Shape and position tolerances without tolerance values

GB/T 2828.1. Sampling procedures for sampling by sampling - Part 1 . Batch-to-batch sampling plan, searched by AQL

GB 2894 safety signs and guidelines for their use

GB/T 3098.1 Fastener mechanical properties bolts, screws and studs

GB/T 3098.6 Mechanical properties of fasteners Stainless steel bolts, screws and studs

GB/T 3768 Acoustic sound pressure method for the determination of noise source sound power level and sound energy level using the envelope measurement surface above the reflection surface Easy law

GB 5226.1 Mechanical electrical safety machinery and electrical equipment - Part 1. General technical conditions

GB/T 5491 Inspection of food and oil materials, sampling method

GB/T 5494 grain and oil inspection of impurities in food and oil, imperfect grain inspection

GB/T 7984 general purpose fabric core conveyor belt

GB/T 8874 Grain and oil general technology, equipment terminology

GB/T 9286 color and varnish paint film cross-cut test GB/T 13306 signage