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

GB/T 25237-2010

Grain and oil machinery - Starch washing cyclones

粮油机械 淀粉洗涤旋流器

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Foreword

Appendix A of this standard is a normative appendix. This standard is proposed by the National Grain Bureau. This standard by the National Grain Standardization Technical Committee. The main drafting unit of this standard. the State Food and Beverage Bureau Wuhan Science and Design Institute, COFCO Biochemical Energy Division, Wenzhou Kang and Of the Industrial Co., Ltd. The main drafters of this standard. Xu Zhaoyong, Gao Pei, Lu Yu, Xiang Wei. Grain and oil mechanical starch washing cyclone

1 Scope

China's national standard for the hydrocyclones used to wash starch. It specifies the types and basic parameters, the technical requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of starch washing cyclones. A hydrocyclone has no moving parts. A slurry is injected tangentially into a conical vessel, the resulting vortex throws the denser material outward and down to the apex while the lighter fraction spirals up and out of the top, and separation happens purely from the geometry and the pressure drop. In a maize or wheat starch plant that arrangement does the central separation of the process: starch granules are slightly denser than the protein and fibre suspended with them, and the difference is small - so a single cyclone separates them only partly, and the plant runs them in a counter-current cascade of ten to fifteen stages, each one taking the underflow of the last and washing it with the overflow of the next. That cascade is what produces starch of the purity the market requires while using a fraction of the fresh water a simple wash would need. The consequence for the equipment is that a cyclone is not bought as a machine but as an element of a battery, so its geometry has to be exactly repeatable: the inlet, the vortex finder, the cone angle and the apex diameter determine the cut point, and a variation between units in a bank puts the stages out of balance and degrades the whole cascade. So the standard fixes the dimensions and their

tolerances, the materials and the wear resistance - starch slurry is abrasive and the apex wears fastest - the pressure drop and capacity, the separation performance, and the assembly and sealing of the bank. Issued on 26 September 2010 and in force since 1 March 2011.

This standard specifies the terminology and definition of the starch scrubber, working principle, product model and parameters, technical requirements, test methods, inspection rules, marking and packaging, storage and shipping requirements. This standard applies to the removal of protein and microfine fibers contained in starchy milk.

2 Normative reference documents

The terms of the following documents are hereby incorporated by reference into this standard. Whichever is the date of the reference file, which is followed by all (Excluding corrigenda) or revisions do not apply to this standard, however, encourage the parties to reach an agreement under this standard Whether you can use the latest version of these files. For undated references, the latest edition applies to this standard.

GB/T 191 packaging and storage icon Method for determination of nitrogen content in starch and its derivatives GB/T

GB/T 13306 signs General specification for packaging of grain and oil machinery products GB/T General specification for grain and oil machinery assembly GB/T Grain and oil processing machinery - General technical requirements - Welding parts

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Starch washing cyclone starchwashingcyclone A mixture of different amounts of cyclone to remove the protein and microfine contained in the starchy milk and to concentrate the final starch equipment.

4 Working principle

According to starch milk and protein and micro-fiber density of different, under pressure, tangential direction into the cyclone starch Milk through the centrifugal force of the starch and impurities in the continuous separation of starch concentration increased, while the washing water in a countercurrent way to take forward starchy milk Containing impurities, thereby removing the protein contained in starchy milk and tiny fibers.

5 Product model and basic parameters

5.1 Product model The preparation of the product model is carried out according to Appendix A.

5.2 basic parameters of the project In the technical documentation such as the instruction manual, the parameters that should be clearly indicated include. model specification, external dimensions, production capacity, series level Number, equipped with pump power and flow.

6.1 General requirements

6.1.1 Manufactured in accordance with the drawings and technical documents approved by the prescribed procedures and shall comply with the requirements of this standard.