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GB/T 10605-2015

Replacing GB/T 10605-2003

Center Driving Rotary-rake Thickener

中心传动式浓缩机

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Center Driving Rotary-rake Thickener

1 Scope

This Standard specifies the product classification, technical requirements, test methods, inspection rules, marking, labeling, instructions for use, packaging, transportation and storage of center driving rotary-rake thickeners.

This Standard is applicable to center driving rotary-rake thickeners used to thicken and deslime various slurries (hereinafter referred to as thickeners).

This Standard is inapplicable to thickeners which have adiabatic device requirements for thickening tanks.

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 1720-1979 Method of Test for Adhesion of Paint Films

GB/T 3768 Acoustics - Determination of Sound Power Levels and Sound Energy Levels of Noise Sources Using Sound Pressure - Survey Method Using an Enveloping Measurement Surface over a Reflecting Plane

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

GB/T 6388 Transport Package Shipping Mark

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

GB/T 13306 Plates

GB/T 13384 General Specifications for Packing of Mechanical and Electrical Product

GB/T 25706 Code of Designations for Mining Machinery Products

JB/T 5000.3 Heavy Mechanical General Techniques and Standards - Part 3: Welding

4 Technical Requirements

4.1 The thickeners shall comply with the requirements of this Standard and be manufactured in accordance with the drawings and technical documents approved by the specified procedures.

4.2 Before the assembly, the components and parts of the thickeners shall pass the inspections; the purchased parts and outsourced parts shall have a certificate of conformity.

4.3 The thickeners shall be able to normally operate under the following conditions:

- a) The altitude does not exceed 3,000 m;
- b) The ambient temperature is $-20\text{ }^{\circ}\text{C} \sim +50\text{ }^{\circ}\text{C}$.

4.4 The welding quality of all components and parts of the thickeners shall comply with the requirements of JB/T 5000.3.

4.5 The assembly of the thickeners shall comply with the requirements of JB/T 5000.10.

4.6 The structure of the thickeners shall comply with the following requirements:

- a) All parts must not interfere with each other; all movable parts shall flexibly operate, and without jamming or abnormal sound;
- b) The mechanism shall not leak oil into the thickening tank;
- c) The rake frame shall be smoothly lifted;
- d) Easy to be installed, maintained and lubricated;
- e) There shall be an overload protection system.

4.7 The thickeners may be driven by an electric motor or a hydraulic motor. The driving device shall be able to implement multi-step or stepless speed regulation, so as to adapt to the requirements of different working conditions.

4.8 In terms of the thickeners driven by a hydraulic motor, the hydraulic system shall comply with the stipulations of JB/T 6996 and shall comply with the following requirements:

- a) The system pressure is stable and the thickener smoothly operates;
- b) There shall be a self-locking function; the scraper rake can stay in any position without falling on its own.

5.2 After the transmission device of the thickeners runs idly for 2 h, use a point thermometer to measure the temperature rise and maximum temperature of the bearing part.

5.3 The noise of the thickeners during idling operation shall be inspected in accordance with the stipulations of GB/T 3768 when the transmission device and the lifting device are operating.

5.4 Conduct visual inspection on the appearance quality of the paint. The thickness of the paint film is measured through an electromagnetic film thickness meter. The adhesion of the paint film is inspected in accordance with the method specified in GB/T 1720.

6 Inspection Rules

6.1 Classification of Inspection

The inspection of the thickeners is divided into exit-factory inspection and type inspection.

6.2 Exit-factory Inspection

6.2.1 Each thickener shall pass the inspection by the manufacturer's quality inspection department before exiting the factory. When exiting the factory, the product shall be attached with a document proving its quality conformance.

6.2.2 The exit-factory inspection items are 4.5 ~ 4.15.

6.3 Type Inspection

6.3.1 Under one of the following circumstances, the thickeners shall receive type inspection:

- a) When new products are put into production or old products are transferred to another factory for production;
- b) After normal production, when there are relatively significant changes in product structure, materials or processes that might affect product performance;
- c) When the production has been suspended for over one year, and then, resumed;
- d) Products in normal production shall be inspected once every 3 years;
- e) When there are relatively significant differences between the exit-factory inspection results and the results of the previous type inspection;

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