

JB

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

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Screw conveyors

螺旋输送机

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1 Scope

This standard specifies the type and basic parameters, basic calculation principles, technical requirements, safety protection, test methods, inspection rules, signs, packaging and storage of screw conveyors (hereinafter referred to as conveyors).

This standard applies to horizontal or slightly inclined (below 20°) conveyors, that continuously transport bulk materials. The temperature of conveyed materials shall not exceed 100 °C.

This standard also applies to the general parts of conveyors, which have special requirements and special types.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 191 Packaging - Pictorial marking for handling of goods

GB/T 1184-1996 Geometrical tolerancing - Geometrical tolerance for features without individual tolerance indications

GB/T 1348 Spheroidal graphite iron castings

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/T 8923 (all parts) Mapping requirements for the natural disasters remote sensing thematic maps

GB/T 9286-1998 Paints and varnishes - Cross cut test for films

GB/T 9439 Grey iron castings

GB/T 11352 Carbon steel castings for general engineering purpose

GB/T 13306 Plates b) Main technical parameters (conveyor length, spindle speed, power, whole- machine weight);

c) Exit-factory number;

d) Date of manufacture;

e) The name and address of the manufacturer.

9.1.2

The pictorial marks for packaging, storage, transportation shall comply with the provisions of GB/T 191.

9.2.1

The packaging of conveyor parts shall comply with the provisions of GB/T 13384

AND be suitable for land and water transport requirements.

9.2.2

The packaging of electrical appliances and motors shall be protected from rain and moisture.

9.2.3

The following documents shall be attached with each conveyor, when shipped:

a) Product qualification certificate;

b) Instructions for use and maintenance of the product;

c) Product installation drawing;

d) Packing list.

9.3.1

The conveyor shall be stored in a well-ventilated and rain-proof warehouse, to avoid corrosion damage.

9.3.2

When the conveyor is stored in the open air, it shall be stored in a place where there is no water accumulation, meanwhile rainproof measures shall be taken.

9.3.3

Electrical equipment shall be stored in a dry and ventilated warehouse.

Appendix A (Normative)

Basic principles of conveyor calculation

A.1 Scope of application

This Appendix specifies the basic principles for the unified calculation of conveyors. It is applicable to conveyors, that continuously and uniformly transport bulk materials horizontally or slightly inclined (below 20°).

This Appendix does not apply to the following special conveyors, which are used in special occasions:

- a) Unloading screw conveyor;
- b) Batching screw conveyor;
- c) Mixing screw conveyor;
- d) Wet screw conveyor;
- e) Screw conveyors with an inclination angle greater than 20°;
- f) Vertical screw conveyor.

A.2 Concept

Conveyor is used for continuous conveying of bulk materials. It consists of one or more sets of helical blades, which are fixed on the pipe shaft, to form a helix, as well as a fixed trough. The spiral rotates in a fixed trough.

The bulk material, which is fed into the trough, rotates together with the helical blade in the trough. It is prevented by the friction force on the trough wall. During operation, the spiral blade pushes the bulk material to move axially. Bulk materials can fall from a suitable opening, at the bottom of the trough or be output from the end of the tank.