

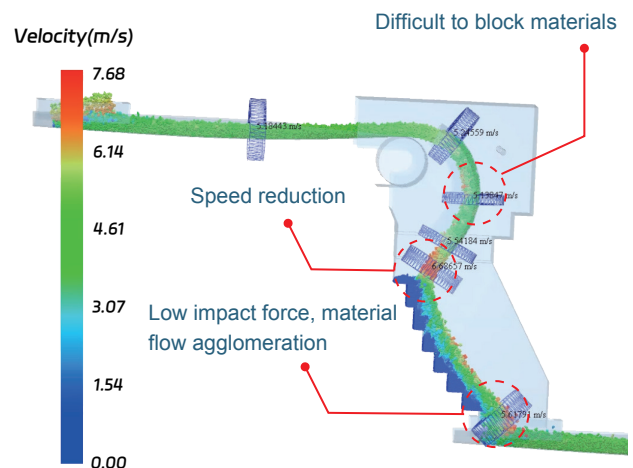
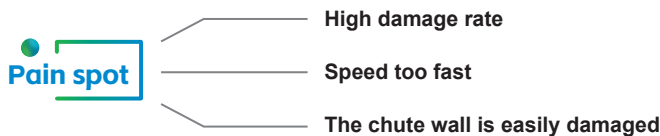
Chute design with DEM simulation

Clean · Efficient · Environmentally friendly

Product introduction

The traditional chute is just a simple way to build the logistics path, to realize the material flow from the high conveyor to the low conveyor transfer function, but seldom consider the material flow on the way of the speed change, collision, crushing, material flow control and other issues. Some good design will use the material design to reduce the material wear and material loss on the chute wall, but due to the material and site conditions are ever-changing, the simple material design still exists in many conditions such as high crushing rate, too fast speed, easy to wear the chute wall and other issues.

Boton Intelligence adopts bulk simulation technology for chute design, using advanced simulation means to simulate the actual material flow transportation process according to the site conditions and technical requirements, and seeks for the optimal solution during the simulation process to ensure that the design and manufacture of the chute under the given conditions are most in line with the site materials. This is due to Boton's strong team of experts, accurate grasp of material properties, advanced design tools and the pursuit of perfect details.



Features and strengths

- ★ The head position can be equipped with a collector and deflector according to the situation, to ensure that the material enters the wall of the transfer chute tangentially with the best contact angle, avoiding direct impact and reducing abrasion.
- ★ Strong engineering capability: Boton has many years of experience in project management and construction, and is qualified in electromechanical engineering.

- The body adopts streamline design to ensure that the material flows along the wall in a concentrated and regularized state, realizing soft landing of the material.
- According to the working condition, the feeding spoon is designed with forward expanding and closing structure, which is deep inside the skirting system to minimize the impact on the belt, suppress the induced wind and reduce the dust.
- Advanced design tools:
 - Utilizes GPU parallel acceleration technology, which is up to 30 times faster than traditional bulk material simulation tools and allows for continuous debugging.
 - Supports a wide range of wall materials and feeding modes, combined with high-density particle generation algorithms to simulate real-world conditions.
 - Uses multi-simulation models of different particles: Hertz-Mindlin contact model, rolling friction model, abrasive model, solid-tie model, and so on.
 - Considering the complex boundary motion, with the help of multiple mesh search algorithms, to realize the actual simulation effect.

Technical parameters and selection guide

Category		Parameters	
Belt width	1000mm~2400mm	Improvement of crushing rate	20%~30%
Belt speed	~5.5m/s	Chute material	Carbon steel, Stainless steel
Dust index	10 mg/m ³	Liner material	High manganese steel, High chromium cast iron, Surfacing plate, Ceramics, etc.

Ordering information

Belt width(mm)	Model	Item code
1000	BTZN-DEMTC1000	58E0001
1200	BTZN-DEMTC1200	58E0002
1400	BTZN-DEMTC1400	58E0003
1600	BTZN-DEMTC1600	58E0004
1800	BTZN-DEMTC1800	58E0005
2000	BTZN-DEMTC2000	58E0006
2200	BTZN-DEMTC2200	58E0007
2400	BTZN-DEMTC2400	58E0008

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Boton focuses on providing intelligent service solutions for industrial bulk material handling. Our main business includes intelligent turnkey service, overall solutions for intelligent conveying, retrofit projects focuses on energy saving, environmental protection and green transformation etc. We took the lead in launching a new model of "integrated general contracting services for conveying systems" in China which changed the situation of different value orientations in the traditional product sales model. This new model speeds up marketization of new technology & new products and has been recognized by many customers domestically and globally.

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