

HENAN EXCELLENT MACHINERY CO.,LTD

———— BULK MATERIAL HANDLING ————

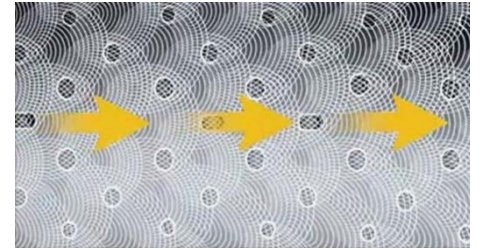
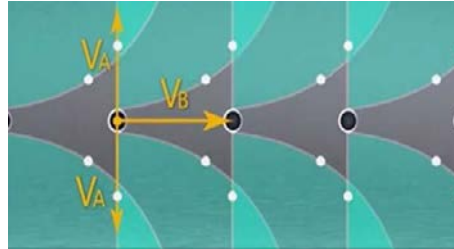
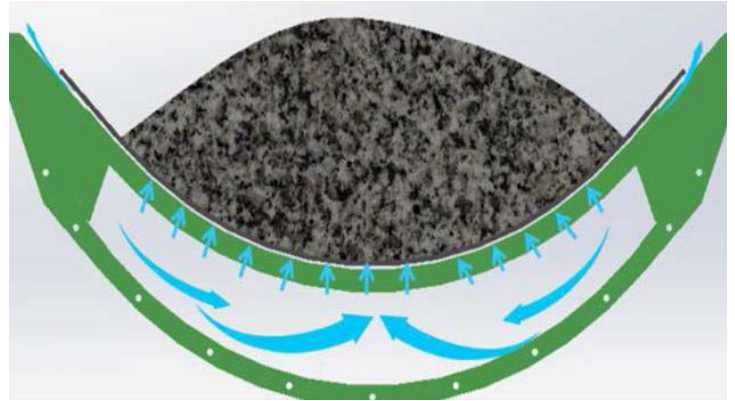


AIR SUPPORTED BELT CONVEYOR

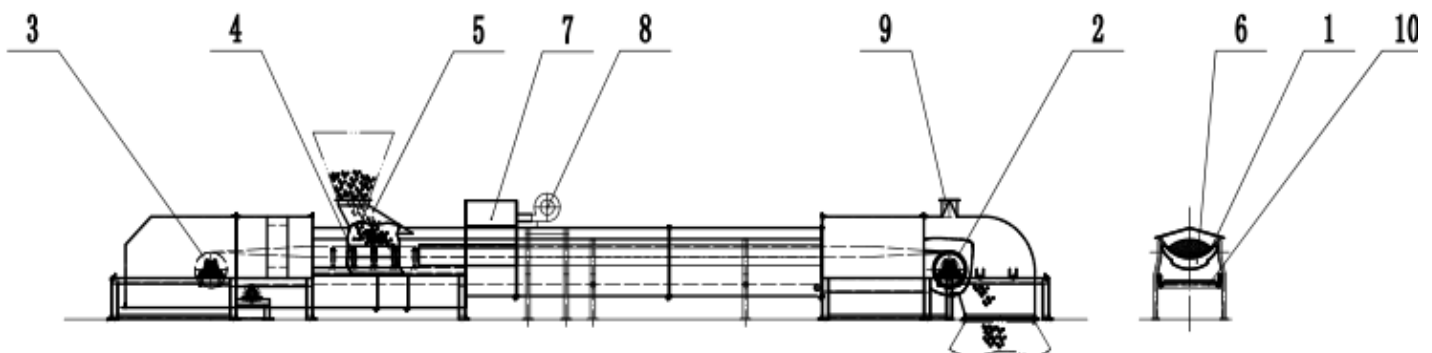
Air Supported Belt Conveyor

1. What is the air supported belt conveyor ?

Air-Supported Belt Conveyor is a conveyor designed to convey free flowing dry products (such as grain, coal, limestone and aggregates) in all types of industries, especially in applications where dust containment is crucial. EXCT conveyors are tough, dependable, and provide efficient handling capacity with minimum product degradation and substantially reduced product-to-product contamination that you find with other designs.



2. How air supported belt conveyor works ?



Mixed Type Air Supported Belt Conveyor

1. rubber belt 2. drive pulley 3. bend pulley 4. impact roller unit 5. feeding hopper
6. plate trough 7. air chamber 8. fan 9. dust removal port 10. return roller

The figure shows the structure diagram for mixed type air supported belt conveyor. The rubber belt (1) runs around the drive pulley (2) and the bend pulley (3), thereby the material is transported from the feeding hopper (5) to the silo. A set of specially designed closed long air boxes with good sealing performance along longitudinal direction of conveyor, commonly known as air chambers. The upper part of air chambers (7) is formed into a disk groove shape (the arc's radius is R , groove angle is θ), which is called plate trough (6). The rubber belt is supported by the "air cushion" on the groove and driven by drive pulley (2), continuous operation, the empty load branch is still supported by flat lower roller, which is called mixed type air supported belt conveyor.

A medium-pressure fan (8) is used to blow air into the air box through air inlet, the air flows longitudinally along the air box, filling the air box to form a certain pressure. And through the rows of orifices on the plate trough (6) overflowing into the groove

between slots to form a stable "air cushion" support rubber belt and materials, and have the air cushion stiffness of the corresponding pressure to adapt to the load change, changing solid rolling friction of the original roller belt conveyor, significantly reduces the frictional resistance. At the same time, it overcomes the weakness of original roller belt conveyor's wave operation, the operation is stable and reliable, energy saving effect is also remarkable, thus safety and reliability are greatly improved.

3.Which industry will the air supported belt conveyor be used in?

Air supported belt conveyor is universal conveyor, can be widely used in Coal, Metallurgy, Electricity, Port, Chemical Industry, Mechanical, Building Materials etc. Especially it used for conveying Grain. It can meet the requirements of these industries for large throughput.

The air supported belt conveyor provided by our company has been widely used in many industry fields, both light industry and transportation industry. The maximum conveying distance of single machine has reached more than 1 km. Speed 6m / s or more. Air supported belt conveyor have occupied huge market at home and abroad in the material conveying process.



Grain



Alumina powder



Mining



Food

4.The advantages of ASBC versus conventional conveyors

It is designed to convey free flowing dry products in all types of industries, especially in applications where dust containment is crucial. Its smooth transport and constant air flow means materials stay on the conveyor belt and dusting is practically eliminated.

1.Small power, low energy consumption, reduce the friction between conveyor belt and conveyor idler, reduced motor power

2.Under the same conditions, the power of the air supported conveyor is the same as the power of operation, no additional power increase.

3.Compared with other belt conveyors, small quantity of conveyor idlers, low maintenance costs, long service life of the belt.

4.Mall friction resistance of belt, reduce 10%-20% of driving power consumption

5.Enclosed transportation can avoid flying dust and is environmentally friendly.

6.High productivity

The air supported belt conveyor can form the best material loading section. Compared with the roller belt conveyors, it can be loaded with 5%~15% material, which is suitable for high speed operation (the belt speed of the general roller machine is 1.25 m/s, and the air supported belt conveyor generally 1.6m / s ~ 2.0 m / s), can improve the transport capacity without increasing the bandwidth.

7.Optional lightweight rubber belt and extended service life

The air supported belt conveyor has low running resistance and low tension. Lightweight rubber belt can be used. It runs smoothly, does not run off, the tape wears little, the tearing phenomenon rarely occurs, and the service life of the tape is more than doubled.

8.Can be used for large dip arrangement

The air supported belt conveyor has continuous gas support, material runs smoothly, its inclination angle is less than the static friction angle of the material and the conveyor belt. The actual angle of inclination of the air supported belt conveyor can be 18° from the roller machine. Increase to 23° . It can also run safely on the left and right.

5.Innovative Technology

- 1. The new air supported belt conveyor solves the problems of the first generation air supported belt conveyor. It has the characteristics of environmental protection, energy saving, heavy load start, cost saving, stable operation and long service life.
- 2. It meets the requirements of large handling capacity in ports, mines, electric power, coal and other industries, it further promotes wide application of air supported belt conveyors.
- 3. The new air supported belt conveyor replaces the one groove angle design method with the secondary groove angle design. The air chambers structure is more scientific and reasonable, overcomes the phenomenon of tape rubbing edge, the running effect is improved by 20%, the gas consumption is saved by 15%.
- 4. The new air supported belt conveyor replaces the one-piece welding air chambers of the first generation with the combined air box. The structure is novel, appearance is beautiful. The strength, torsion and bending resistance of air box are greatly improved, the wind splitting device is added. The device not only can reasonably divide wind and diversion, but also greatly reduces resistance loss of airflow along the path, energy saving effect is at the domestic leading level.

6.Why more industries will choose the air belt conveyor?

- 1. The speed of development of technical equipment for logistics, now requires a belt conveyor with a high capacity to handle the conveyor.
- 2. In the new times, all walks of life have higher and higher requirements for environmental protection, and air supported belt conveyors are a good choice.
- 3. With development of the times, technological advancement, the application range of air supported belt conveyor will inevitably become more and more extensive, and even replace some roller belt conveyors.

7.Specifications of air supported belt conveyor

Air Supported Belt Conveyor Technical Specifications							
Belt Speed(m/s)	Belt Width (mm)						
	500	650	800	1000	1200	1400	1600

	Capacity (m ³ /h)						
0.8	78	131	222	-	-	-	-
1.0	97	164	278	435	655	891	1141
1.3	122	206	348	544	819	1115	1426
1.6	156	264	445	696	1048	1427	1826
2.0	191	323	546	853	1284	1748	2236
2.5	232	391	661	1033	1556	2118	2738
3.2	284	470	824	1233	1858	2528	3378
4.0	326	531	901	1049	2202	2996	3697
1.5	349	590	1000	1566	2358	3207	4107
5.0	378	615	1043	1631	2456	3341	4278
6.0	-	-	-	1853	2790	3796	4861

8. Project Cases of Air Supported Belt Conveyor



Panjin Port Project



Dalian Port Project



Zhanjiang Port Project



Jinzhou Port Project



Qingdao Port Project



Tianjin Port Project



Dongguan Port Project



Rizhao Port Project



Lanshan Port Project



Dandong Port Project



Yingkou Port Project



Xiamen Port Project



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