

PRODUCT CATALOGUE

1. Vibrating Screens

Vibrating screens are the most important screening machines primarily utilised in the mineral processing industry. They are used to separate feeds containing solid and crushed ores down to approximately 200µm in size, and are applicable to both perfectly wetted and dried feed. The frequency of the screen is mainly controlled by an electromagnetic vibrator which is mounted above and directly connected to the screening surface. The vibrating screens usually operates at an inclined angle, traditionally varying between 0 and 25 degrees and can go up to a maximum of 45 degrees.

Range of applications

Vibrating frequency screens have become more standardized and widely adopted in materials classification processes. It allows efficient cuts and fine separations, which can provide high purity and precise sizing control of the product (for sizes of fine particles up to 1.5mm). Common industrial applications include dewatering of materials, processing of powder in coal, ores and minerals, wood pelleting, fractionated reclaimed asphalt pavement, food, pharmaceutical and chemical industry. Fineness of the products and system capacities varies over a huge range between different models, to satisfy individual application requirements.



The vibrating screens achieves a high efficiency of separation and differs from its counterparts since it breaks down the surface tension between particles. Also the high level of RPMs contributes to increasing the stratification of material so they separate at a much higher rate. Separation cannot take place without stratification. Furthermore, since the screen vibrates vertically, there is a 'popcorn effect' whereby the coarser particles are lifted higher and finer particles stay closer to the screen, thus increases the probability of separation. In some high frequency vibrating screens the flow rate of the feed can be controlled, this is proportional to the 'popcorn effect'; if the flow rate lowers, the effect is also decreased. Limitations of the high frequency vibrating screen are that the fine screens are very fragile and are susceptible to becoming blocked very easily. Over time the separation efficiency will drop and the screen will need to be replaced.

The screening performance is affected significantly by various factors such as equipment capacity and angle of inclination, in which the performance can be measured by screening efficiency and flux of the product.

The equipment capacity is almost directly proportional to screen width. This means that by increasing the length, there will be additional chances for passage, and will usually lead to increase in transmission and efficiency. In general, the standard size of screen length should be two to three times the width. However, certain special situations such as restricted space may require a different design.

2. Two Roll Crusher



THE FIELDS OF APPLICATION

Smooth roll crushers are particularly suitable for medium and fine grinding processes, demanding a strictly defined portion of fine grain and low dust content.

The Feed Materials

Raw materials, secondary raw materials and by-products such as salt/chemicals/Sugar lumps and similar products.

The Working Principle

The particles are drawn into the gap between the rolls by their rotating motion and a friction angle formed between the rolls and the particle, called the nip angle. The two rolls force the particle between their rotating surface into the ever smaller gap area, and it fractures from the compressive forces presented by the rotating rolls. Some major advantages of roll crushers are they give a very fine product size distribution and they produce very little dust or fines. Rolls crushers are effectively used in minerals crushing where the ores are not too abrasive and they are also used in smaller scale production mining of more abrasive metal ores,

FEATURES

1. Compact structure, low noise and efficient;
2. Easy to install and only need simple foundation;
3. Can adjust the pressure and size easily.
4. Self-protection, the parts cannot be damaged when hard materials such as the metals goes into the crushing cavity;
5. Low cost maintenance and easy to maintain.

THE MODE OF OPERATION

The crushing rolls are driven individually and directly by means of electro-motors, counter rotating via V-belts. The material is fed into the machine by means of conveyors or vibro feeder while it is spread over the whole width of the roll. The roll diameter grants an optimum angle of entry. The careful adjusting of the roller speed towards the falling speed of the feeding material guarantees a gentle grinding process with a minimum of wear and tear.

3. Truck Loader



Fully Automatic Double Boom Hydraulic Truck Loader for Bags

1. This is complete bag loading system for loading filled bags on truck/trolley/trailers.
2. Capacity upto 500~800 bags/hr.
3. The stacking of bags can be done deep into the truck deck.
4. Very less manpower is required.
5. Power consumption is very low.
6. Maintenance is very less.
7. Double boom hydraulic lowering & hoisting arrangement.
8. Fully remote controlled operation.
9. This can stack bags at different position & elevations.
10. Cleated belt for high inclinations.

4. Mobile Bag Stackers



Bag Stacker salient features

1. The above system can convey 'BAGS' from 0.65 Mtr. to 3.5 Mtr. height and above 3.5 Mtr. to 10 Mtr. (33') height.
2. The system is mobile can be carried out from one point to other manually or by tractor.
3. The system can be used for stacking, unstacking and loading of bags in trucks too.
4. Conveying system is chain conveyor on which M.S. slats and wooden slats are fitted alternatively.
5. System can handle bags upto 600-800 bags/hour at the speed of 0.35 Mtr/sec to 0.5 Mtr/sec (21 MPM to 30 MPM).
6. The equipment is in two parts (Part-I & II) and can also be designed in one piece or lower height of about 7.5 Mtr. (25'). The approximate weight of the system is about 3 M Tonnes and the whole equipment is fitted on a M.S. channel base frame having ADV pneumatic wheels of 600 X 19 size and 3" X 10" caster wheels.
7. 75% of presently employed labour can be reduced by engaging this system.

5. Portable Belt Conveyors



This equipment is designed for the handling of Jute/HDPE bags (5 Kg. to 100 Kg.) in various industries, Godowns and warehouses.

This system has various merits over other conveyors.

1. Can be used more than one working point and is easy to shift from one point to other point.
2. Operating cost is very low.
3. Totally maintenance free.
4. Can handle very high capacity per hour (up to 800 bags per hour) at a low power consumption.
5. Can be manufactured for various lengths 3mtr to 15mtr.

6. Screw Conveyors



Screw conveyors have been a popular material handling mechanism throughout history. They are used in many bulk handling industries. Screw conveyors in modern industry are often used horizontally or at a slight incline as an efficient way to move semi-solid material, including food waste, wood chips, Aggregates, Cereal grains, Animal feed, Boiler ash, Meat and Bone meal, Municipal solid waste, and many others. We are manufacturing screw conveyors from Φ 100 mm to Φ 1000 mm & up to 12 mtr's long.

We manufacture and export screw conveyor which find their applications in various industrial applications. Our screw conveyor are comprised of a screw inside the hollow pipe contained within tube and is turned with the help of a motor in order to deliver material from one end of the conveyor to the other.

7. Bucket Elevator



A bucket elevator can elevate a variety of bulk materials from light to heavy and from fine to large lumps.

A centrifugal discharge elevator may be vertical or inclined. Vertical elevators depend entirely on the action of centrifugal force to get the material into the discharge chute and must be run at speeds relatively high. Inclined elevators with buckets spaced apart or set close together may have the discharge chute set partly under the head pulley. Since they don't depend entirely on the centrifugal force to put the material into the chute, the speed may be relatively lower.

Nearly all centrifugal discharge elevators have spaced buckets with rounded bottoms. They pick up their load from a boot, a pit, or a pile of material at the foot pulley.

The buckets can be also triangular in cross section and set close to on the belt with little or no clearance between them. This is a continuous bucket elevator. Its main use is to carry difficult materials at slow speed.

Early bucket elevators used a flat chain with small, steel buckets attached every few inches. While some elevators still are manufactured with a chain and steel buckets, most current bucket elevator construction uses a rubber belt with plastic buckets. Pulleys several feet in diameter are used at the top and bottom. The top pulley is driven by an electric motor.

The bucket elevator is the enabling technology that permitted the construction of grain elevators. A diverter at the top of the elevator allows the grain to be sent to the chosen bin.

A similar device with flat steps is occasionally used as an elevator for humans, e.g., for employees in parking garages. (This sort of elevator is generally considered too dangerous to allow use by the public.)

BUCKET ELEVATOR TYPES

There are three common bucket elevator designs seen in bulk material handling facilities worldwide:

1. **1. Centrifugal Discharge Elevator** – Typically, this is the style of elevator used in grain handling facilities we are all familiar with along rivers, ports or on the farm. The elevator buckets discharge product freely by the use of centrifugal force. Product flings out of the bucket into the discharge spout located at the top of the elevator.
2. **2. Continuous Discharge Elevator** – This style bucket elevator is used typically to discharge sluggish and non free flowing product where the elevator buckets discharge on top of each other. Speeds are run in the 125 fpm range to accomplish this type of centrifugal force.
3. **3. Positive Discharge Elevator** – Elevator design where the buckets are used to elevate commodities such as popcorn, candy and potato chips where the utmost concern is on gentle handling and finished food grade applications. This style elevator bucket operates off a double strand chain where they are held in place by two pins so the bucket is allowed to freely swivel. To discharge the bucket it's mechanically tripped to flip and discharge but until this action the bucket is held parallel with the floor and upright. These elevators typically form an "S" or "L" in design and run throughout a plant.

8. Belt Conveyors



A belt conveyor consists of two or more pulleys, with a continuous loop of the conveyor belt that rotates about them. One of the pulleys is powered, moving the belt and the material on the belt forward. The powered pulley is called the drive pulley while the unpowered pulley is called the idler pulley. In between the pulleys the belt is supported on carrying idlers or plate.

There are two main industrial classes of belt conveyers; those in general material handling such as those moving boxes/bags along inside a factory and bulk material handling such as those used to transport industrial and agricultural materials, such as grain, coal, ores etc. The belt consists of one or more layers of material they can be made out of rubber. An under layer of material to provide linear strength and shape called a carcass and an over layer called the cover. The belt width available is from 300 mm wide to 2400 mm wide.

The carcass is often a cotton or plastic web or mesh. The cover is often various rubber or plastic compounds specified by use of the belt. Covers can be made from more exotic material for unusual applications such as silicone for heat or gum rubber when traction is essential. A wide variety of related conveying machines are available, different as regards principal of operation, means and direction of conveyance, including screw conveyors, vibrating conveyors, the portable conveying system and roller conveyor system, which uses a series of powered rollers to convey boxes or pallets.

Belt conveyors are an efficient solution of transporting bulk materials at high rates over great distances. Belt conveyors are used for horizontal inclined and declined movement of loads. The belt is supported on roller or on slider bed plate.
